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Solar - Geophysical Data

Part I (Prompt Reports)

NO. 464 APRIL 1983

DATA FOR
MARCH 1983
FEBRUARY 1983

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 464

Issued in two parts

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

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SGD 464 Part I (Prompt)

MARCH 1983 DATA

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Mar 83

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES MARCH 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
060	01	28	148	140	007	S10W81	1	0	0		01	S10W81	Q	SOLQUIET
						S08W66	0	0	0			S08W66	Q	MAGQUIET
						S08W51	0	0	0			S08W51	Q	
						N12W45	4	0	0			N12W45	Q	
						S15W01	0	0	0			S15W01	Q	
						N15E02	0	0	0			N15E02	Q	
						S15E09	6	0	0			S15E09	Q	
						S19E23	0	0	0			S19E23	Q	
						S16E56	4	0	0			S16E56	Q	
						S20E61	3	0	0			S20E61	Q	
061	02	01	151	148	015	S11W97	1	0	0		02	S11W97	Q	SOLQUIET
						S08W80	0	0	0			S08W80	Q	MAGQUIET
						S09W65	1	0	0			S09W65	Q	
						N12W61	0	0	0			N12W61	Q	
						S12W15	0	0	0			S12W15	Q	
						N16W12	0	0	0			N16W12	Q	
						S14W04	3	0	0			S14W04	Q	
						S18E09	0	0	0			S18E09	Q	
						S15E43	5	0	0			S15E43	Q	
						S19E51	8	0	0			S19E51	E	
062	03	02	154	141	051	S08W91	0	0	0	PRESTO STRONG MAGSTORM IN PROGRESS 02/0745Z	03	S08W91	Q	SOLQUIET
						S09W78	0	0	0			S09W78	Q	MAGALERT
						N13W73	0	0	0			N13W73	Q	MINOR 03
						N17W25	0	0	0			N17W25	Q	
						S16W24	0	0	0			S16W24	Q	
						S15W16	0	0	0			S15W16	Q	
						S18W03	0	0	0			S18W03	Q	
						S09E19	0	0	0			S09E19	Q	
						S15E30	0	0	0			S15E30	E	
						S19E39	9	0	0			S19E39	E	
063	04	03	136	143	032	S12W91	0	0	0	PRESTO MAGSTORM 02/00XXZ	04	S12W91	Q	SOLQUIET
						S14W83	0	0	0			S14W83	Q	MAGALERT
						N17W39	0	0	0			N17W39	Q	05/XX
						S16W26	0	0	0			S16W26	Q	
						S18W16	0	0	0			S18W16	Q	
						S09E06	6	0	0			S09E06	Q	
						S15E16	0	0	0			S15E16	Q	
						S18E25	0	0	0			S18E25	E	
						S15E35	0	0	0			S15E35	Q	
064	05	04	182	146	016	N16W52	0	0	0		05	N16W52	Q	SOLQUIET
						S13W50	0	0	0	S13W50		Q	MAGNIL	
						S19W38	2	0	0	S19W38		Q		
						S19W30	0	0	0	S19W30		Q		
						S07W16	0	0	0	S07W16		Q		
						S09W08	4	0	0	S09W08		Q		
						S15E03	1	0	0	S15E03		Q		
						S15E12	0	0	0	S15E12		Q		
						S18E12	0	0	0	S18E12		Q		
S12E21	0	0	0	S12E21	Q									
065	06	05	152	149	027	N17W65	0	0	0		06	N17W65	Q	SOLQUIET
						S13W65	1	0	0	S13W65		Q	MAGQUIET	
						S18W42	0	0	0	S18W42		Q		
						S06W31	0	0	0	S06W31		Q		
						S08W21	0	0	0	S08W21		Q		
						S14W11	3	0	0	S14W11		Q		
						S13W06	1	0	0	S13W06		Q		
						S19W02	0	0	0	S19W02		Q		
S11E08	1	0	0	S11E08	Q									
066	07	06	118	141	012	S13W81	3	0	0		07	S13W81	Q	SOLQUIET
						N17W78	0	0	0	N17W78		Q	MAGQUIET	
						S18W55	0	0	0	S18W55		Q		

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
MARCH 1983

SUMMARY OF THE GEOALERT MESSAGES

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S08W34	1	0	0			S08W34	Q	
						S15W24	1	0	0			S15W24	Q	
						S13W19	0	0	0			S13W19	Q	
						S18W15	2	0	0			S18W15	Q	
						S12W05	1	0	0			S12W05	Q	
067	08	07	099	134	008	S18W68	0	0	0		08	S18W68	Q	SOLQUIET
						S08W48	1	0	0			S08W48	Q	MAGQUIET
						S15W36	0	0	0			S15W36	Q	
						S11W31	0	0	0			S11W31	Q	
						S17W28	0	0	0			S17W28	Q	
						S07W18	0	0	0			S07W18	Q	
068	09	08	085	130	010	S18W81	1	0	0		09	S18W81	Q	SOLQUIET
						S09W61	6	0	0			S09W61	Q	MAGQUIET
						S15W51	5	0	0			S15W51	Q	
						S19W43	11	0	0			S19W43	E	
						S02W13	2	0	0			S02W13	Q	
069	10	09	119	124	007	S19W92	0	0	0		10	S19W92	Q	SOLQUIET
						S09W76	1	0	0			S09W76	Q	MAGQUIET
						N25W65	0	0	0			N25W65	Q	
						S15W64	0	0	0			S15W64	Q	
						S20W55	7	0	0			S20W55	Q	
						S02W26	5	0	0			S02W26	Q	
						N12E29	0	0	0			N12E29	Q	
070	11	10	087	117	007	S09W90	5	0	0		11	S09W90	Q	SOLQUIET
						S15W78	0	0	0			S15W78	Q	MAGQUIET
						S20W67	5	1	0			S20W67	Q	
						N07W41	0	0	0			N07W41	Q	
						S02W40	3	0	0			S02W40	Q	
071	12	11	078	104	018	S15W91	0	0	0		12	S15W91	Q	SOLQUIET
						N06W55	0	0	0			N06W55	Q	MAGALERT
						S02W54	2	0	0			S02W54	Q	MINOR 11/XX
						S08E02	0	0	0			S08E02	Q	RECURRENCE
						S20E80	0	0	0			S20E80	Q	
072	13	12	055	104	028	S21W92	0	0	0	PRESTO KAKIOKA 13/0100Z	13	S21W92	Q	SOLQUIET
						N06W69	0	0	0	MAGSTORM 12/10XXZ		N06W69	Q	MAGALERT
						S02W68	0	0	0			S02W68	Q	MINOR 13/15
						S10W11	0	0	0			S10W11	Q	RECURRENCE
073	14	13	011	097	029	S02W80	0	0	0		14	S02W80	Q	SOLQUIET
														MAGNIL
074	15	14	046	097	023	S10W38	0	0	0		15	S10W38	Q	SOLQUIET
						S13E53	4	0	0			S13E53	E	MAGQUIET
						S07E73	8	0	0			S07E73	E	
075	16	15	068	103	014	N19W14	1	0	0		16	N19W14	Q	SOLQUIET
						S12E75	0	0	0			S12E75	Q	MAGQUIET
						S07E64	2	0	0			S07E64	E	
						S13E38	1	0	0			S13E38	E	
076	17	16	090	109	012	N20W28	0	0	0		17	N20W28	Q	SOLQUIET
						S13E26	5	0	0			S13E26	E	MAGQUIET
						S06E50	9	0	0			S06E50	E	
						S11E61	0	0	0			S11E61	Q	
077	18	17	096	116	013	N19W43	0	0	0	PRESTO TENFLARE 370 FLUX UNITS	18	N19W43	Q	SOLALERT
						S13E13	3	0	0	17/2012Z DURATION 8 MINUTES		S13E13	Q	19/21
						S06E37	11	4	0			S06E37	Q	MAGQUIET
						S11E48	0	0	0			S11E48	Q	
078	19	18	120	119	016	N15W57	0	0	0		19	N15W57	Q	SOLALERT
						S13E01	6	0	0			S13E01	E	19/21
						N11E02	0	0	0			N11E02	Q	MAGALERT

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Mar 83

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
MARCH 1983

SUMMARY OF THE GEOALERT MESSAGES

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S07E24	6	2	0			S07E24	A	19/20
						S11E35	1	0	0			S11E35	Q	
						S13E75	0	0	0			S13E75	Q	
079	20	19	129	119	023	N15W69	0	0	0		20	N15W69	Q	SOLNIL
						S12W12	5	0	0			S12W12	A	MAGALERT
						N11W11	0	0	0			N11W11	Q	MINOR 20
						S07E11	1	0	0			S07E11	A	RECURRENCE
						S11E23	0	0	0			S11E23	Q	
						S13E65	0	0	0			S13E65	Q	
080	21	20	122	122	021	S13W26	7	0	0		21	S13W26	A	SOLQUIET
						S07W03	1	0	0			S07W03	E	MAGNIL
						S11E09	0	0	0			S11E09	Q	
						S14E19	0	0	0			S14E19	Q	
						S13E50	0	0	0			S13E50	Q	
081	22	21	128	117	012	S12W38	4	0	0		22	S12W38	A	SOLQUIET
						S07W16	0	0	0			S07W16	E	MAGQUIET
						S11W02	0	0	0			S11W02	Q	
						S13E07	0	0	0			S13E07	Q	
						S22E08	0	0	0			S22E08	Q	
						S13E37	0	0	0			S13E37	Q	
082	23	22	105	118	010	S12W52	2	0	0		23	S12W52	E	SOLQUIET
						S07W31	0	0	0			S07W31	Q	MAGQUIET
						S11W16	2	0	0			S11W16	Q	
						S12W10	0	0	0			S12W10	Q	
						S24W03	0	0	0			S24W03	Q	
						S12E21	0	0	0			S12E21	Q	
083	24	23	090	117	010	S11W67	3	0	0		24	S11W67	E	SOLQUIET
						S07W44	0	0	0			S07W44	Q	MAGQUIET
						S11W31	0	0	0			S11W31	Q	
						S12W24	4	0	0			S12W24	Q	
						S12E07	0	0	0			S12E07	Q	
084	25	24	105	118	009	S11W82	0	0	0		25	S11W82	Q	SOLQUIET
						S07W58	1	0	0			S07W58	Q	MAGQUIET
						S11W43	0	0	0			S11W43	Q	
						N21W41	0	0	0			N21W41	Q	
						S12W39	1	0	0			S12W39	Q	
						S12W05	1	0	0			S12W05	Q	
						S10E77	0	0	0			S10E77	Q	
085	26	25	108	118	045	S08W71	1	0	0	PRESTO MAGSTORM 25/0544Z	26	S08W71	Q	SOLQUIET
						N20W55	1	0	0			N20W55	Q	MAGALERT
						S12W51	1	0	0			S12W51	Q	26
						S12W18	0	0	0			S12W18	Q	
						S25E08	0	0	0			S25E08	Q	
						S15E23	0	0	0			S15E23	Q	
						S09E67	1	0	0			S09E67	Q	
						S16E85	0	0	0			S16E85	Q	
086	27	26	121	118	015	S07W85	0	0	0		27	S07W85	Q	SOLQUIET
						N21W70	9	0	0			N21W70	Q	MAGNIL
						S12W66	0	0	0			S12W66	Q	
						S48W09	0	0	0			S48W09	Q	
						S25W06	0	0	0			S25W06	Q	
						S15E43	0	0	0			S15E43	Q	
						S10E54	0	0	0			S10E54	Q	
						S17E72	0	0	0			S17E72	Q	
						S21E73	0	0	0			S21E73	Q	
087	28	27	106	110	004	N21W83	0	0	0		28	N21W83	Q	SOLQUIET
						S12W79	0	0	0			S12W79	Q	MAGQUIET
						S25W20	0	0	0			S25W20	Q	
						S11W05	0	0	0			S11W05	Q	
						S14E30	1	0	0			S14E30	Q	

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES
MARCH 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S10E41	0	0	0			S10E41	Q	
						S15E58	0	0	0			S15E58	Q	
						S21E63	0	0	0			S21E63	Q	
088	29	28	079	105	023	S25W35	0	0	0		29	S25W35	Q	SOLQUIET
						S14E16	3	0	0			S14E16	Q	MAGALERT
						S05E27	0	0	0			S05E27	Q	29/30
						S10E27	0	0	0			S10E27	Q	
						S16E45	0	0	0			S16E45	Q	
						S21E49	0	0	0			S21E49	Q	
089	30	29	076	099	029	S14W22	0	0	0		30	S14W22	Q	SOLQUIET
						S13E03	2	0	0			S13E03	Q	MAGALERT
						S06E14	0	0	0			S06E14	Q	30/XX
						S10E14	0	0	0			S10E14	Q	
						S17E33	0	0	0			S17E33	Q	
						S22E38	0	0	0			S22E38	Q	
090	31	30	079	101	021	S22W06	0	0	0		31	S22W06	Q	SOLQUIET
						S14W05	0	0	0			S14W05	Q	MAGNIF
						S06E01	0	0	0			S06E01	Q	
						S10E03	0	0	0			S10E03	Q	
						S17E20	2	0	0			S17E20	Q	
						S22E24	0	0	0			S22E24	Q	
091	01	31	087	095	022	S17W19	0	0	0			S17W19	Q	SOLQUIET
						S12W12	0	0	0			S12W12	Q	MAGQUIET
						S07W11	0	0	0			S07W11	Q	
						S17E07	1	0	0			S17E07	Q	
						S22E12	0	0	0			S22E12	Q	
						S13E28	0	0	0			S13E28	Q	

NO=MESSAGE SERIAL NUMBER, DI= DATE OF ISSUE, DO=DATE OF OBSERVATION, WOLF=WOLF NUMBER, 10CM=10CM SOLAR FLUX, A=A INDEX, LOC=LOCATION LAT-LONG, TOT=TOTAL, M=NUMBER OF M FLARES, X= NUMBER OF X FLARES, DA= DATE OF FORECAST, DE=DESCRIPTION, Q=QUIET, E=ERUPTIVE, A=ACTIVE, P=PROTON.

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)
MARCH 1983

02 MARCH 1983 BOULDER 02/0745Z STRONG MAGSTORM IN PROGRESS
03 MARCH 1983 KAKIOKA 03/0600Z MAGSTORM 02/00XXZ
13 MARCH 1983 KAKIOKA 13/0100Z MAGSTORM 12/10XXZ
17 MARCH 1983 BOULDER 17/2130Z TENFLARE 370 FLUX UNITS 17/2012Z DURATION 8 MINUTES
26 MARCH 1983 KAKIOKA 26/0045Z MAGSTORM 25/0544Z

INTERNATIONAL* (R_i) RELATIVE SUNSPOT NUMBERS

Day	1982 Final		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Jan	Feb										
01	68	94	109	145	63	70	50	55	115	132	80	88
02	77	85	93	115	57	83	41	68	124	164	88	125
03	55	88	86	151	46	94	33	68	146	143	75	132
04	63	94	95	137	58	104	42	81	176	120	100	137
05	82	82	108	112	63	111	39	97	160	109	100	137
06	110	71	82	117	64	108	32	128	141	55	76	174
07	109	72	77	130	69	115	33	144	117	54	98	175
08	126	63	68	131	89	127	42	150	115	55	86	184
09	100	39	74	132	47	142	61	161	94	54	102	152
10	83	23	55	138	53	147	110	155	81	88	109	166
11	90	21	49	152	58	138	146	157	86	87	112	171
12	77	18	32	142	75	144	187	138	78	92	83	194
13	94	11	12	133	78	139	219	113	81	98	98	172
14	92	10	24	136	58	137	222	100	104	88	116	160
15	92	26	44	127	52	125	246	100	129	71	116	166
16	89	17	63	122	69	128	163	86	133	65	100	140
17	102	22	74	108	76	136	272	93	127	54	108	118
18	86	32	83	91	89	134	270	105	107	33	117	102
19	93	33	82	87	110	134	234	97	117	56	122	79
20	81	32	82	93	112	139	192	77	104	70	118	63
21	74	39	83	91	98	143	138	79	102	95	131	87
22	73	29	70	109	121	146	99	90	95	100	141	88
23	64	40	63	138	107	116	74	71	97	128	120	96
24	58	44	60	145	110	112	27	79	109	145	96	100
25	75	61	48	149	88	92	25	101	118	142	75	122
26	77	70	70	150	117	94	29	98	138	135	73	116
27	70	88	72	126	130	49	22	115	133	131	71	126
28	89	98	48	90	119	36	19	132	132	103	74	120
29	99		50	85	112	32	23	134	144	101	82	98
30	101		72	79	77	38	38	144	160	96	76	79
31	110		37		82		60	120		73		69
Mean	86	50	66	122	82	110	106	108	119	95	98	127

*International sunspot numbers have replaced the Zurich values since January 1981. The yearly mean sunspot number equaled 115.9 in 1982.

DAILY SOLAR FLUX AT 2800 MHz (10.7 CM) ADJUSTED TO 1 AU

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Jan 82	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	131.4	162.6	145.4	172.2*	151.7	134.2	106.5	123.4	184.3*	205.2	159.6	167.8
02	131.4	156.5*	138.7	172.0*	147.4	135.1	106.9	138.2*	168.7*	209.4	154.5	166.3
03	136.2	145.5	141.0	169.9	147.7	141.5	109.4	153.5*	171.0*	197.0	147.4	181.6
04	138.2	156.8	143.7	158.2	144.7	158.2*	111.5	167.3	188.1*	182.3	143.4	194.5
05	154.6	154.3*	146.6	159.9*	148.7	156.6*	114.1	180.9	179.4	163.9	136.4	195.9*
06	161.6*	152.3	139.3	165.2	153.0	149.6*	121.3	201.2	172.1	151.9	142.1	210.4
07	163.3	142.2	132.3	164.0*	151.0	158.6*	128.2*	219.6	176.8	140.2	142.3	244.3
08	155.9*	133.3	128.1	162.1*	150.8	167.3	150.3*	217.5*	178.5	136.9	144.8	241.7*
09	150.0	121.9	122.0	167.3*	139.8	177.4	176.6*	212.5	179.2	137.4	147.5	258.6
10	144.2	113.4	115.1	177.1*	130.7	196.0*	203.5*	209.5	165.6	134.8	152.9	273.5*
11	139.3	106.9	103.0	178.7*	132.3	224.2	226.4*	205.0*	158.3	137.3	154.1	259.3*
12	135.7	99.8	99.5*	177.5*	132.3	238.3*	239.7*	195.2*	152.5*	136.4	164.9	251.1
13	135.1	95.5	95.8	170.9	129.8	240.2	252.6*	182.9*	151.3	143.9	161.2	239.0
14	137.2	91.7	95.9	157.9	132.2	240.8	269.2*	176.8	147.4	140.4	159.5	235.6
15	141.0	88.5	100.6*	152.2	132.1	235.8	274.0	173.0	149.0*	134.1	157.0*	221.9
16	140.2	89.7	107.8	148.2	139.0	210.6*	269.4*	161.4	147.3	129.8	163.3	213.2*
17	138.0	91.9	114.5	145.9*	142.2*	206.0*	273.3	165.1	147.0*	130.1	158.0	200.5*
18	134.8	97.2	117.7	147.0	146.8	200.7*	247.2*	166.4*	143.2	132.8	170.2*	186.5
19	127.4	94.6	118.3	145.1	155.9	207.5	234.7	159.2	142.6*	136.7	182.3	176.8*
20	120.5	97.3	120.7	144.2	155.6*	207.1	196.5	144.7	146.9	146.2	189.2	159.2
21	116.1	101.6	118.8*	145.2	165.4*	210.7	173.7*	138.6	145.4	161.4	200.9	149.4
22	113.5	106.2	117.2	156.9*	158.8	197.2*	149.5*	138.8	146.2	168.2	231.1*	150.1*
23	115.4	112.0	116.2	175.2	155.7*	187.3	128.5	141.2	152.6*	177.3	196.1	157.0*
24	114.1	114.3	117.1	181.0	144.8*	168.2	117.8	142.9	165.4*	190.9	172.9	166.8
25	122.7	120.3	114.2*	182.6*	145.7	159.1*	108.2	158.5	170.3	196.8	164.8	170.6
26	132.6	126.2	114.7*	178.3	158.0	142.3	102.1	166.4	187.3	193.5	168.8*	168.7
27	133.6	138.3	109.6	167.3	171.5*	127.6	97.8	180.4	191.4	187.7	158.6	166.2
28	140.6	137.6	104.9	161.0*	171.3*	123.1	96.4	181.4	196.9	181.4	160.3*	157.0
29	148.9		98.9	155.6	170.9*	111.7	97.5	183.4	204.6	170.9	161.4	147.3
30	154.8		100.7	149.8*	142.8	108.5	112.4	174.5	202.4	166.7	164.8	142.5
31	161.9		98.7		136.7		114.4	175.0*		165.1		134.4
Mean	137.7	119.6	117.3	162.9	147.9	177.4	164.8	172.1	167.1	160.9	163.7	93.2

*Adjusted for burst in progress at time of measurement.

DAILY SOLAR INDICES

9
Mar 83

MARCH 1983

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers		Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit								
			R _I	R _A		AFGL (15400)	AFGL (8800)	AFGL (4995)	Ottawa (2800)	AFGL (2695)	AFGL (1415)	AFGL (606)	AFGL (410)	AFGL (245)
01	60	13	109	94	148.1	578	290	171	145.4	144	126	93	41	20
02	61	14	93	77	141.1	439	242	151	138.7	142	125	--	--	--
03	62	15	86	81	143.4	---	---	---	141.0	---	---	---	---	---
04	63	16	93	96	146.0	---	---	---	143.7	---	---	---	---	---
05	64	17	108	98	149.0	---	---	---	146.6	---	---	---	---	---
06	65	18	82	73	141.4	---	---	---	139.3	---	---	---	---	---
07	66	19	77	69	134.3	---	---	---	132.3	---	---	---	---	---
08	67	20	68	63	129.9	541	270	151	128.1	125	110	78	32	15
09	68	21	74	61	123.7	518	250	138	122.0	123	103	8	7	11
10	69	22	55	50	116.6	---	---	---	115.1	---	---	---	---	---
11	70	23	49	46	104.4	542	254	131	103.0	98	89	--	--	--
12	71	24	32	22	100.7*	553	256	132	99.5*	96	90	--	--	--
13	72	25	12	10	97.0	551	258	127	95.8	88	82	70	29	11
14	73	26	24	22	97.0	556	255	125	95.9	88	83	70	31	11
15	74	27	44	53	101.7*	554	254	131	100.6*	84	85	73	29	13
16	75	1	63	61	108.9	566	265	138	107.8	102	89	76	29	13
17	76	2	74	74	115.7	592	264	147	114.5	---	96	--	78	--
18	77	3	83	71	118.8	566	261	147	117.7	122	98	74	33	17
19	78	4	82	78	119.3	---	---	---	118.3	---	---	---	---	---
20	79	5	82	81	121.7	565	260	151	120.7	118	103	84	36	33
21	80	6	83	74	119.6*	570	269	147	118.8*	96	102	85	33	56
22	81	7	70	63	118.0	576	264	148	117.2	112	101	84	35	16
23	82	8	63	57	116.9	581	271	144	116.2	98	100	84	39	17
24	83	9	60	54	117.8	579	262	145	117.1	107	99	85	35	14
25	84	10	48	43	114.8*	576	261	145	114.2*	113	104	80	33	18
26	85	11	70	71	115.2*	570	261	143	114.7*	113	107	84	34	15
27	86	12	72	66	110.0	567	257	138	109.6	102	103	84	33	14
28	87	13	48	42	105.2	---	---	---	104.9	---	---	---	---	---
29	88	14	50	42	99.2	557	245	128	98.9	88	100	80	31	13
30	89	15	72	38	100.9	568	241	124	100.7	94	94	86	30	13
31	90	16	37	30	98.9	561	246	129	98.7	92	89	73	30	12
Mean			66	60	118.6	558	259	140	117.3	107	99	76	33	17

*Adjusted for burst in progress at time of measurement.

Numbers in parentheses in the column headings denote frequencies in MHz.
Equipment problems produced the gaps shown here in the AFGL Sagamore Hill observations.
The International and American sunspot numbers represent provisional values.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

MARCH 1983

Date	RELATIVE SUNSPOT NUMBERS						2800 MHz RADIO FLUX Adjusted to 1 AU	
	Zurich or Internat (R _I)		American (R _A)		Derived (R _S)		(S _a)	
	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed
Jul 79	159.4	155	140.5	145	123.1	145	171.4	192
Aug	142.2	155	125.1	144	129.2	145	177.0	192
Sep	188.4	156	184.0	143	156.5	144	202.3	191
Oct	186.2	158	178.2	144	171.7	145	216.4	192
Nov	183.3	162	176.5	149	182.9	149	226.8	196
Dec	176.3	164	157.6	152	151.0	152	197.2	199
Jan 80	159.6	164	145.3	153	153.6	154	199.6	200
Feb	155.0	163	133.9	154	148.7	155	195.1	200
Mar	126.2	161	107.9	153	117.8	153	166.5	200
Apr	164.1	159	138.5	151	164.0	152	209.3	198
May	179.7	156	172.3	149	185.4	151	229.1	197
Jun	157.3	155	153.6	149	153.2	151	199.3	198
Jul	136.3	153	136.0	144	144.1	151	190.8	197
Aug	135.4	150	133.0	144	121.9	150	170.3	196
Sep	155.0	150	150.0	146	138.8	152	185.9	198
Oct	164.7	150	160.8	149	157.1	154	202.9	200
Nov	147.9	148	149.9	149	168.5	153	213.4	199
Dec	174.4	143	167.5	145	174.3	150	218.8	196
Jan 81	114.0	140	115.4	144	120.5	149	169.0	195
Feb	141.3	142	143.7	146	153.5	152	199.5	198
Mar	135.5	143	149.2	149	157.5	156	203.2	202
Apr	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142	157.0	146	178.6	156	222.8	202
Nov	137.5	139	138.8	142	157.6	151	203.3	197
Dec	150.1	138	145.0	140	155.5	149	201.4	195
Jan 82	111.2	137	110.4	139	124.2	148	173.4	195
Feb	163.6	133	161.0	134	163.6	144	208.9	191
Mar	153.8	129	155.5	130	163.0	139	208.3	186
Apr	122.0	124	121.9	124	113.9	134	162.9	182
May	82.2	120	82.6	120	97.7	129	147.9	177
Jun	110.4	117	113.5	118	129.6	127	177.4	175
Jul	106.1	115*	113.3	117	116.0	125	164.8	174
Aug	107.6	109*	110.5	111	123.9	120	172.1	168
Sep	118.8	101*	117.8	105	118.5	112	167.1	161
Oct	94.7	95(2)*	90.1	98	111.8	104	160.9	---
Nov	98.1	90(5)*	93.2	94	114.8	99	163.7	---
Dec	127.0	86(7)*	145.0	90	146.7	95	193.2	---
Jan 83	85.8†	82(8)*	82.8	85	86.7	90	137.7	---
Feb	50.1†	79(9)*	53.4	82	67.2	86	119.6	---
Mar	66.5†	77(11)*	---	80	64.7	85	117.3	---
Apr	---	75(13)*	---	78	---	82	---	---
May	---	72(15)*	---	75	---	79	---	---
Jun	---	69(17)*	---	71	---	75	---	---
Jul	---	68(18)*	---	70	---	74	---	---
Aug	---	67(20)*	---	69	---	73	---	---
Sep	---	66(22)*	---	68	---	72	---	---

*An asterisk marks either a value of the observed 12-month running mean or of a predicted 12-month average that is based in part on preliminary observations.

Boldface entries indicate predicted values and parentheses enclose the absolute value of the 90% confidence limits. All tabulated entries of the American sunspot number are final values. The two columns headed "Derived" represent a sunspot number computed from a linear regression equation between the 2800 MHz solar flux (adjusted to 1 AU) and the Zurich sunspot number.

†International numbers replaced the Zurich values in January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	119	117	115	109	101	95 (2)	90 (5)	86 (7)
1983	82 (8)	79 (9)	77 (11)	75 (13)	72 (15)	69 (17)	68 (18)	67 (20)	66 (22)	66 (23)	66 (23)	65 (24)
1984	63 (24)	61 (25)	57 (25)	53 (26)	51 (28)	51 (29)	49 (29)	47 (29)	45 (29)	43 (28)	41 (27)	39 (27)
1985	38 (27)	37 (26)	36 (25)	36 (25)	35 (25)	33 (24)	32 (22)	31 (21)	30 (21)	30 (22)	29 (22)	28 (23)
1986	28 (23)	27 (23)	25 (23)	24 (22)	22 (22)	20 (21)	18 (20)	16 (19)	16 (18)	15 (17)	15 (15)	15 (14)

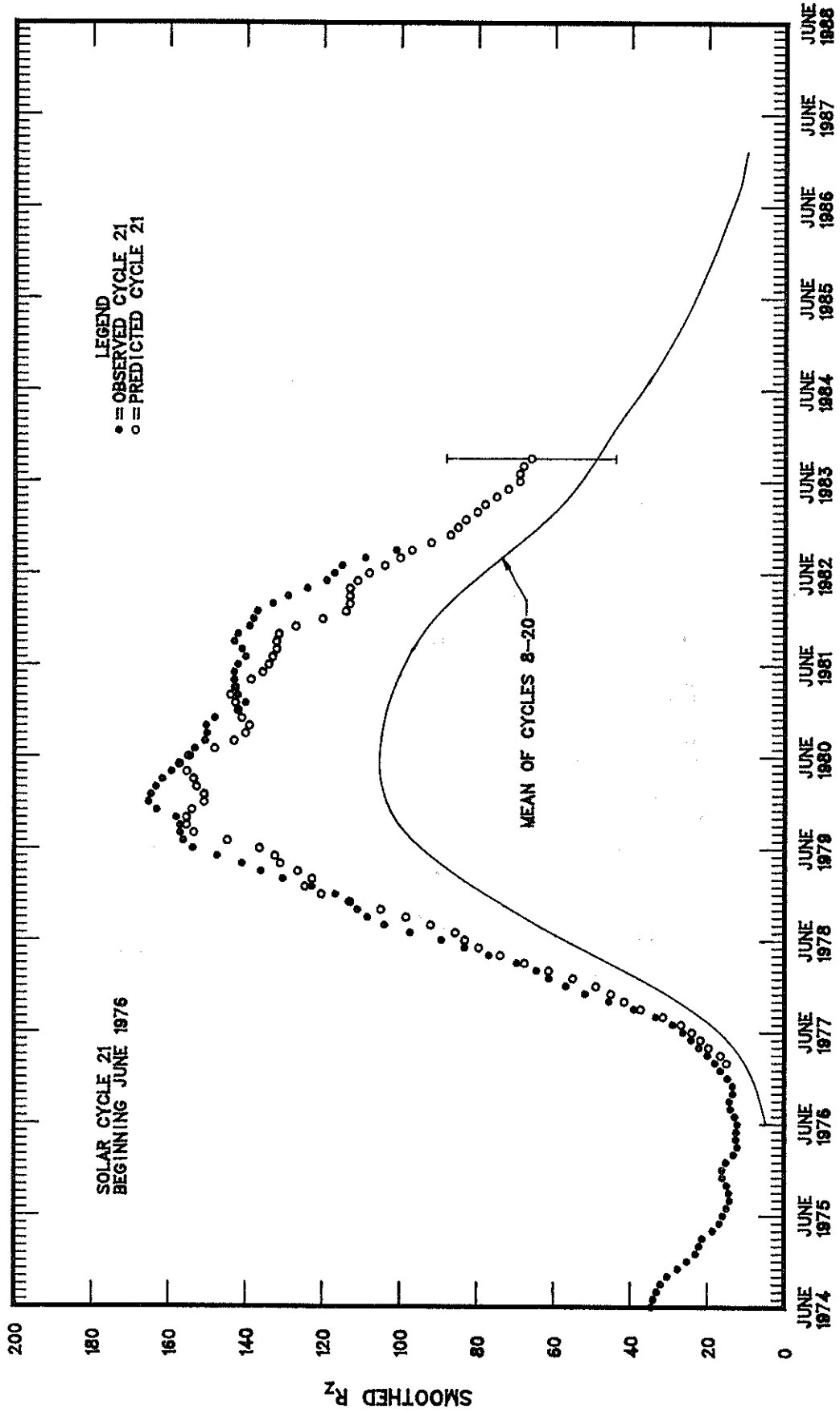
For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through 1982, and on provisional international numbers thereafter. Some table entries after the June 1976 value will change slightly, when we incorporate final data for 1983.

The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 10 in the February 1983 edition of the "Solar-Geophysical Data" supplement.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval. Consider, for example, the September 1983 prediction tabulated above. There exists a 90% chance that in September 1983 the actual smoothed sunspot number will fall somewhere between 44 and 88.

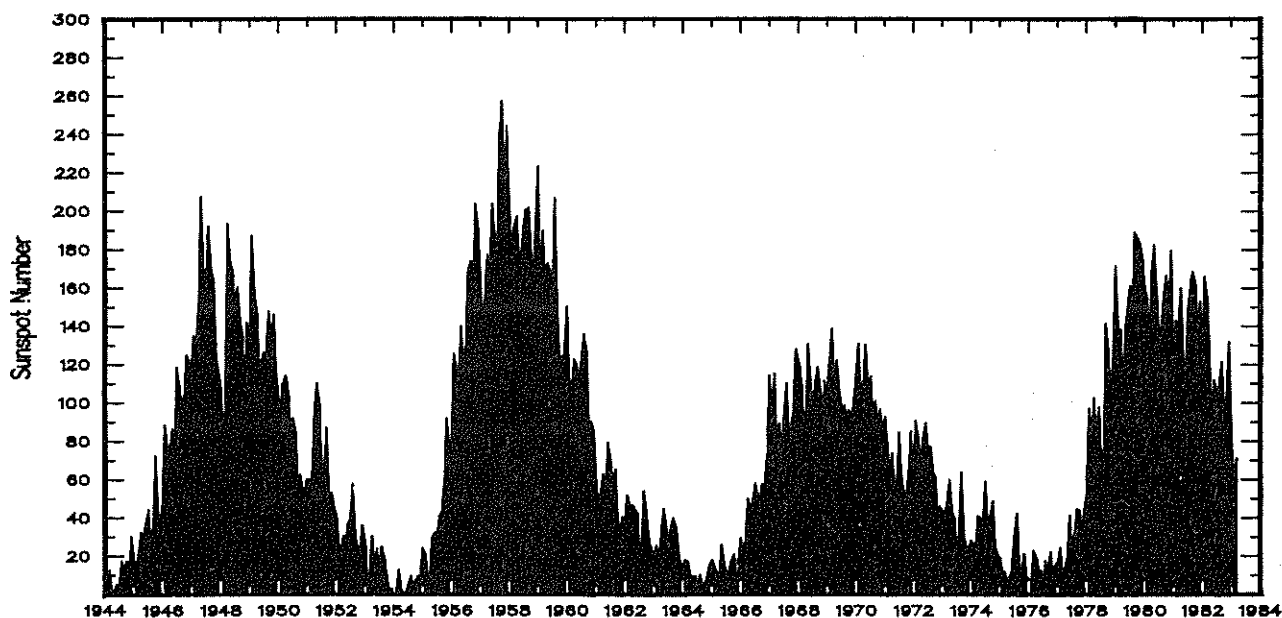
THE MCNISH-LINCOLN PREDICTION METHOD GENERATES USEFUL ESTIMATES OF SMOOTHED SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. In "Solar-Geophysical Data," Issues 390-401, we based the current cycle predictions on March 1976 as the end of cycle 20 and the onset of the new cycle 21. Later studies, including one published by M. Waldmeier, showed that June 1976 was more appropriately the minimum epoch. We therefore generated this table using the June 1976 date.

*MAXIMUM OF SUNSPOT CYCLE 21. The maximum smoothed sunspot number occurred in December 1979.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS January 1944 - March 1983



MONTHLY MEAN SUNSPOT NUMBERS

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.9	63.6	37.7	32.6	40.0
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0
1983	85.8*	50.1*	66.5*									

*Provisional

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	Remarks
[	MANI	01	0020E	0024	0028D	S13 E56		03	5.2	8D	SF	1	V			30	.5	F
	HOLL	01	0021	0022	0033	S13 E51	4102	03	4.9	12	SN	2	C			60		F
	PALE	01	0025	0026	0036	S12 E54	4102	03	5.1	11	SN	3	C			103		
	PALE	01	0211	0218U	0231	S19 E64	4104	03	6.0	20	SN	3	C			52		
	PALE	01	0304	0305	0313	S21 E59	4104	03	5.7	9	SF	3	C			64		
	LEAR	01	0356	0356	0404	S14 E08	4098	03	1.8	8	SF	3	C			25		
	ISTA	01	0715		0722	S15 W88		02	22.6	7	SB							D
	ISTA	01	0715		0724	S21 E60		03	5.9	9	SN							E
	ATHN	01	0715E	0717	0724	S10 W86		02	22.8	9D	SN	3	V	0717				
	LEAR	01	0822	0822	0826	S08 W58	4100	02	25.0	4	SF	3	C			16		
	ISTA	01	1100		1110	S21 W88		02	22.7	10	SN							D
	RAMY	01	1544	1620	1639	S14 E45	4102	03	5.1	55	SN	3	C			78		
	RAMY	01	1615	1628	1633	S21 E57	4104	03	6.1	18	SF	3	C			38		
	RAMY	01	1659	1717	1839	S19 E55	4104	03	5.9	100	SN	3	C			30		
	PALE	01	1824	1831	1847	S12 E44	4102	03	5.1	23	SN	3	C			80		F
	HOLL	01	1846E	1927	2104D	S24 E52	4104	03	5.8	138D	1F	3	C			247		K
	HOLL	01	1846E	2058	2104D	S24 E52	4104	03	5.8	138D	2B	3	C			417		ZUK
	RAMY	01	1854	1913	1925	S14 E44	4102	03	5.1	31	SF	3	C			46		
	PALE	01	1910	1910	1919	S12 E44	4102	03	5.1	9	SF	3	C			20		
	RAMY	01	1931	1940	1956	S13 E48	4102	03	5.4	25	SF	3	C			137		
	RAMY	01	1939	1940	1946	S16 W03	4098	03	1.6	7	SF	3	C			50		
	HOLL	01	1942E	1942U	1949	S15 W03	4098	03	1.6	7D	SN	3	C			55		F
	PALE	01	2004	2004	2016	S19 E56	4104	03	6.1	12	SF	3	C			28		
	PALE	01	2054	2058	2108	S22 E51	4104	03	5.8	14	1B	3	C			169		FE
	RAMY	01	2054	2055	2101D	S24 E51	4104	03	5.8	7D	SN	3	C			106		F
	HOLL	01	2102	2114	2148D	S15 W04	4098	03	1.6	46D	2B	3	C			548		
	PALE	01	2103	2117	2225	S14 W04	4098	03	1.6	82	1N	3	C			408		U
	PALE	01	2206	2210	2223	S19 E52	4104	03	5.9	17	SN	3	C			101		F
	HOLL	01	2210E	2210U	2215D	S24 E52	4104	03	5.9	5D	SB	2	C			75		E
	PALE	01	2313	2315	2320	S19 E49	4104	03	5.7	7	1N	3	C			179		
	LEAR	01	2321	2326	2331	S21 E49	4104	03	5.7	10	SN	3	C			130		F
	PALE	01	2325	2326	2332	S19 E48	4104	03	5.6	7	SF	3	C			103		
	PALE	02	0023	0031	0037	S19 E53	4104	03	6.1	14	SF	3	C			46		
	PALE	02	0136	0140	0157	S19 E52	4104	03	6.0	21	1N	3	C			166		F K
	PALE	02	0136	0149	0157	S19 E52	4104	03	6.0	21	1N	3	C			178		K
	PALE	02	0159	0204	0214	S19 E52	4104	03	6.1	15	SB	3	C			103		
	PALE	02	0318	0318	0332	S19 E51	4104	03	6.0	14	SF	3	C			29		
	PALE	02	0355	0357	0402	S17 E48	4104	03	5.8	7	SF	3	C			27		
	LEAR	02	0419	0423	0435	S20 E49	4104	03	5.9	16	SB	3	C			45		F
	LEAR	02	0711	0714	0719	S20 E47	4104	03	5.9	8	SF	3	C			82		F
	LEAR	02	0918	0923	0953D	S20 E45	4104	03	5.8	35D	SF	3	C			61		K
	LEAR	02	0918	0934	0953D	S20 E45	4104	03	5.8	35D	1N	3	C			200		K
	PALE	02	2124E	2128U	2141D	S19 E40	4104	03	5.9	17D	SF	3	C			60		
	PEKG	04	0654	0701	0800	S15 W38		03	1.4	66	1N		C	0701		168		E
	ATHN	04	0706E	0715	0758	S18 W38		03	1.4	52D	1B	2	V	0715		207	2.8	
	MANI	04	0712E	0714	0755	S18 W39		03	1.3	43D	1B	1	V			175	2.3	F
	PEKG	05	0004	0008	0013	S09 W09		03	4.3	9	SN		P	0008		92	.9	E
	PEKG	06	0225	0227	0230	S15 W61		03	1.5	5	SF		P	0227		63	1.3	E
	PEKG	06	0720	0726	0741	S13 W13		03	5.3	21	SB		C	0726		60	.6	E
	ATHN	06	0730	0735	0742	S12 W08		03	5.7	12	SB	4	V	0735		159	1.7	
	ATHN	06	0843	0847	0855	S22 W03		03	6.1	12	SN	4	V	0847		127	1.4	
	LEAR	08	0053	0054	0101	S21 W71	4099	03	2.6	8	SF	3	C			20		H
	LEAR	08	0207	0209	0229	S20 W31	4104	03	5.7	22	SF	3	C			44		F
	LEAR	08	0409	0409	0414	S23 W33	4104	03	5.6	5	SF	3	C			29		
	LEAR	08	0414	0415	0419	S14 W39	4102	03	5.2	5	SF	3	C			20		
	LEAR	08	0454	0455	0508	S18 W32	4104	03	5.8	14	SF	3	C			69		F
	LEAR	08	0551	0556	0600	S24 W35	4104	03	5.5	9	SN	3	C			30		
	LEAR	08	0847	0848	0857	S23 W36	4104	03	5.6	10	SF	3	C			75		
	WEND	08	0848	0850	0856	S22 W35		03	5.7	8	SN		C	0850		56	.7	
	RAMY	08	1334	1337	1345	S22 W38	4104	03	5.6	11	SF	3	C			28		
	RAMY	08	1359	1400	1443D	S14 W45	4102	03	5.2	44D	SF	3	C			23		
	RAMY	08	1505	1511	1519	S04 W10		03	7.9	14	SF	3	C			46		
	HOLL	08	1544	1544	1550	S22 W40	4104	03	5.6	6	SN	3	C			45		
	RAMY	08	1547	1550	1617	S08 W57	4105	03	4.4	30	SF	3	C			48		
	RAMY	08	1547E	1555	1600	S23 W38	4104	03	5.7	13D	SF	3	C			40		F
	HOLL	08	1710	1712	1714D	S07 W59	4105	03	4.3	4D	SF	3	C			24		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks	
																Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)		
HOLL	08	1711	1712	1714D	S19	W40	4104	03	5.7	30	SF		3	C			21		
PALE	08	1758	1759	1808	S02	W10	4110	03	8.0	10	SF		3	C			21		
PALE	08	1827	1827	1835	S19	W41	4104	03	5.6	8	SF		3	C			36		
HOLL	08	1827	1827	1833	S18	W41	4104	03	5.6	6	SF		3	C			20		
HOLL	08	1841	1843	1850	S07	W57	4105	03	4.5	9	SF		3	C			15		F
PALE	08	1842	1843	1848	S08	W58	4105	03	4.4	6	SF		3	C			14		
HOLL	08	1918	1933	1949	S07	W59	4105	03	4.4	31	SF		3	C			66		
HOLL	08	1956	2001	2020	S20	W42	4104	03	5.6	24	SN		3	C			77		F
HOLL	08	2050	2051	2055	S12	W48	4102	03	5.2	5	SF		3	C			18		H
HOLL	08	2117	2118	2132	S07	W60	4105	03	4.4	15	SF		3	C			29		
HOLL	08	2141	2143	2156	S13	W49	4102	03	5.2	15	SN		3	C			69		F
HOLL	08	2153	2157	2203	S06	W59	4105	03	4.5	10	SF		3	C			47		F
HOLL	08	2221	2221	2231	S18	W43	4104	03	5.7	10	SF		3	C			20		
HOLL	08	2301	2311	2317	S12	W49	4102	03	5.3	16	SF		3	C			21		
PALE	09	0011E	0011U	0048D	S21	W39	4104	03	6.0	37D	SF		3	C			75		F
HOLL	09	0017	0017	0048	S18	W42	4104	03	5.8	31	1B		3	C			207		E
LEAR	09	0020E	0020U	0104	S20	W41	4104	03	5.9	44D	SF		2	C			159		F
PALE	09	0233	0235	0238	S24	W40	4104	03	6.0	5	SF		3	C			27		
LEAR	09	0435	0436	0442	S08	W65	4105	03	4.3	7	SF		3	C			29		
ISTA	09	0703		0712	S20	W48		03	5.6	9	SF								E
LEAR	09	0754	0758	0811	S20	W45	4104	03	5.9	17	SF		3	C			31		
ISTA	09	0825		0828	N08	W17		03	8.1	3	SF								D
WEND	09	0834	0839	0847	S21	W48		03	5.7	13	SF			C	0839		25		.4
RAMY	09	1211	1212	1220	S21	W49	4104	03	5.7	9	SF		3	C			62		
RAMY	09	1253	1256	1304	S03	W21	4110	03	8.0	11	SF		3	C			23		
RAMY	09	1340	1345	1402	S03	W20	4110	03	8.1	22	SN		3	C			100		
RAMY	09	1458	1504	1548	S03	W21	4110	03	8.1	50	SN		3	C			54		
HOLL	09	1612	1613	1617	S18	W51	4104	03	5.8	5	SF		3	C			26		
HOLL	09	1625	1626	1637	S19	W52	4104	03	5.7	12	SF		3	C			31		
PALE	09	1732	1733	1740	S02	W23	4110	03	8.0	8	SF		3	C			29		
HOLL	09	1821	1828	1830	S19	W53	4104	03	5.7	9	SF		3	C			22		
PALE	09	2034	2035	2041	S03	W24	4110	03	8.1	7	SF		3	C			34		
LEAR	10	0004	0010U	0026	S08	W76	4105	03	4.3	22	SF		2	C					F
MANI	10	0006E	0010	0025	S09	W77		03	4.2	19D	SF		1	V					F
HOLL	10	0006	0009	0056D	S07	W77	4105	03	4.2	50D	SN		3	C			92		UF
PEKG	10	0007	0010	0016	S08	W74		03	4.5	9	SN			C	0010		76		E
PALE	10	0007	0009	0024	S09	W76	4105	03	4.3	17	SF		3	C					F
PALE	10	0028	0048	0118	S08	W73	4105	03	4.5	50	SF		3	C					
PALE	10	0102	0102	0108	S03	W29	4110	03	7.9	6	SF		3	C			44		
LEAR	10	0259	0301	0317	S22	W51	4104	03	6.2	18	SN		3	C			34		
LEAR	10	0504	0512	0610	S04	W38	4110	03	7.4	66	SF		3	C			29		
LEAR	10	0834	0909	0932D	S26	W58	4104	03	5.8	58D	1N		3	C			194		F
PEKG	10	0835	0841	0900D	S24	W59		03	5.8	25D	1N			C	0841		168		F
WEND	10	0835	0920	1047	S23	W52		03	6.3	132	2N			C	0920		306		5.6
ISTA	10	0840		0945	S23	W53		03	6.3	65	2B								KU
ATHN	10	0850	0853	1015	S22	W50		03	6.5	85	1B		3	V	0853		255		4.0
RAMY	10	1144	1153	1238	S22	W57	4104	03	6.1	54	SN		3	C			57		
RAMY	10	1224	1228	1238	S04	W34	4110	03	8.0	14	SF		3	C			26		
RAMY	10	1246	1258	1322	S21	W60	4104	03	5.9	36	SF		3	C			31		
RAMY	10	1335	1337	1340	S06	W74	4105	03	5.0	5	SF		3	C			33		
WEND	10	1511	1515	1521	S11	W89		03	3.9	10	SN			C	1515		25		
HOLL	10	1511	1517	1528	S07	W85	4105	03	4.3	17	SF		3	C			46		
HOLL	11	0018	0026	0039	S01	W42	4110	03	7.9	21	SF		3	C			30		
LEAR	11	0120	0146	0218	S03	W45	4110	03	7.7	58	SF		3	C			71		F
PALE	11	0121E	0148U	0157D	S05	W45	4110	03	7.7	36D	SF		3	C			35		F
PEKG	11	0142	0159	0240	S03	W49		03	7.4	58	SN			P	0159		126		2.0
PEKG	14	0546	0547	0548	S06	W88		03	7.6	2	SF			P	0547		50		E
PEKG	14	0624	0628	0642	S06	W88		03	7.7	18	SF			P	0628		42		E
HOLL	14	1639	1705	1708	S14	E56		03	18.9	29	SF		3	C			18		
HOLL	14	1651	1654	1656	S05	E84		03	21.0	5	SF		3	C			11		
HOLL	14	1713	1721	1732	S07	E82		03	20.9	19	SF		3	C			25		F
HOLL	14	1733	1739	1744	S14	E56		03	19.0	11	SF		3	C			47		
HOLL	14	1757	1818	1819	S05	E83		03	21.0	22	SF		3	C			25		
HOLL	14	1832	1833	1841	S08	E84		03	21.1	9	SF		3	C			16		
HOLL	14	1904	1919	1938	S09	E72	4116	03	20.2	34	SF		3	C			45		
HOLL	14	1907	1909	1923	S14	E54	4115	03	18.9	16	SF		3	C			21		
HOLL	14	2137	2142	2149	S07	E78	4116	03	20.7	12	SF		3	C			13		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																(10 ⁻⁶ Disk)	Apparent Corr (Sq Deg)	
HOLL	14	2323	2329	2345	S08	E77	4116	03	20.8	22	SF		3	C		19		
LEAR	15	0409E	0409U	0447	S19	E58		03	19.6	38D	SF		2	C		89		FS
RAMY	15	1539	1545	1554	S15	E44	4115	03	19.0	15	SF		3	C		56		
HOLL	15	1814	1815	1827	N19	W11	4117	03	14.9	13	SN		3	C		58		F
HOLL	15	1853	1856	1951	S08	E72	4116	03	21.2	58	SN		3	C		83		F
RAMY	15	1854	1856	1932	S09	E70	4116	03	21.0	38	SN		3	C		49		
LEAR	16	0034	0036	0042	S14	E41	4115	03	19.1	8	SF		3	C		19		
LEAR	16	0110	0112	0121	S07	E63	4116	03	20.8	11	SF		3	C		39		
LEAR	16	0111	0113	0127	S14	E39	4115	03	19.0	16	SF		3	C		34		F
LEAR	16	0136	0138	0146	S08	E69	4116	03	21.2	10	SF		3	C		44		
PALE	16	0138	0139	0143	S07	E66	4116	03	21.0	5	SF		2	C		24		
PEKG	16	0314	0317	0330	S13	E36		03	18.9	16	SF		3	C	0317	59	.7	E
PALE	16	0315	0324	0330	S13	E36	4115	03	18.9	15	SF		2	C		49		
LEAR	16	0338	0341	0359	S14	E37	4115	03	18.9	21	SN		3	C		67		F
PEKG	16	0340	0350	0401	S14	E36		03	18.9	21	SF		3	C	0350	92	1.2	F
PEKG	16	0426	0431	0440	S13	E35		03	18.8	14	SF		3	C	0431	34	.4	E
PEKG	16	0531	0534	0556	S14	E35		03	18.9	25	SF		3	C	0534	29	.4	E
PEKG	16	0737	0741	0749	S13	E34		03	18.9	12	SF		3	C	0741	17	.2	E
PEKG	16	0757	0802	0810	S13	E34		03	18.9	13	SF		3	C	0802	25	.3	D
PALE	16	1745	1752	1800	S08	E51	4116	03	20.6	15	SF		3	C		40		F
HOLL	16	1745	1752	1812	S09	E51	4116	03	20.6	27	SF		3	C		26		
PALE	16	1756	1800	1803	S13	E29	4115	03	18.9	7	SF		3	C		22		
HOLL	16	1815	1816	1822	S09	E52	4116	03	20.7	7	SF		3	C		25		
HOLL	16	1846	1850	1858	S07	E56	4116	03	21.0	12	SF		3	C		24		
RAMY	16	1924	1928	1936	S10	E55	4116	03	20.9	12	SF		3	C		56		
PALE	16	1925	1926	1928	S08	E49	4116	03	20.5	3	SF		3	C		29		
PALE	16	2103	2120	2137D	S08	E47	4116	03	20.4	34D	SF		3	C		108		
HOLL	16	2105	2106	2346D	S07	E53	4116	03	20.9	161D	SF		3	C		26		K
HOLL	16	2105	2209	2346D	S07	E53	4116	03	20.9	161D	1N		3	C		186		FHK
LEAR	16	2334E	2337	2343	S10	E52	4116	03	20.9	9D	SF		3	C		27		
HOLL	17	0015	0015	0052D	S08	E48	4116	03	20.6	37D	SF		3	C		27		F
PALE	17	0223	0226	0252	S06	E49	4116	03	20.8	29	SN		3	C		73		
LEAR	17	0224	0227	0246	S07	E52	4116	03	21.0	22	SB		3	C		45		
LEAR	17	0441	0445	0556	S08	E46	4116	03	20.6	75	SF		3	C		43		
LEAR	17	0701	0701	0704	S14	E25	4115	03	19.2	3	SF		3	C		30		
LEAR	17	0723	0724	0753	S07	E46	4116	03	20.8	30	SN		3	C		99		F
BUCA	17	0724E		0746	S07	E44		03	20.6	22D	SN		3	C	0724	107	1.5	F
LEAR	17	0900	0904	0940	S08	E48	4116	03	21.0	40	1B		3	C		223		F
MANI	17	0904E	0905U	0908D	S03	W50		03	13.6	4D	SB		1	V		80	1.3	F
PEKG	17	0905	0912	0946	S07	E47		03	20.9	41	1N		3	C	0912	160	2.4	F
RAMY	17	1151E	1151U	1214	S08	E43	4116	03	20.7	23D	SF		3	C		85		
RAMY	17	1359	1401	1416	S08	E43	4116	03	20.8	17	SF		3	C		36		
HOLL	17	1458	1459	1512	S07	E38	4116	03	20.5	14	SN		3	C		87		F
RAMY	17	1459	1500	1508	S07	E40	4116	03	20.6	9	SN		3	C		81		
RAMY	17	1939	1955	2000	S06	E42	4116	03	21.0	21	SN		3	C		56		
HOLL	17	1947	1949	2003	S06	E43	4116	03	21.0	16	SN		3	C		49		F
HOLL	17	2011	2013	2101	S08	E42	4116	03	21.0	50	1B		3	C		358		U
HOLL	17	2011	2017	2101	S08	E42	4116	03	21.0	50	1B		3	C		434		K
RAMY	17	2012	2014	2106	S07	E42	4116	03	21.0	54	1B		3	C		340		Z
LEAR	17	2315E		2322	S14	E14	4115	03	19.0	7D	SF		2	C		35		
LEAR	17	2330	2332	2342	S08	E39	4116	03	20.9	12	SN		3	C		27		H
PEKG	18	0038	0052	0135	S13	E11		03	18.9	57	SB		3	C	0052	113	1.2	FK
PEKG	18	0038	0102	0135	S13	E11		03	18.9	57	SB		3	C	0102	160	1.7	F
HOLL	18	0048E	0049U	0105D	S10	E11	4115	03	18.9	17D	SN		2	C		75		F
LEAR	18	0050	0051	0158	S15	E13	4115	03	19.0	68	SN		3	C		177		F
LEAR	18	0154	0156	0224	S08	E37	4116	03	20.9	30	SB		3	C		119		H
PALE	18	0154	0157	0223	S08	E37	4116	03	20.9	29	SN		3	C		93		F
PEKG	18	0156	0202	0212	S07	E37		03	20.9	16	1N		3	C	0202	185	2.4	F
PEKG	18	0440	0441	0451	S08	E34		03	20.7	11	1N		3	C	0441	197	2.4	F
LEAR	18	0440	0444	0454	S07	E38	4116	03	21.0	14	SB		3	C		138		F
LEAR	18	0548	0550	0554	S13	E13	4115	03	19.2	6	SF		3	C		26		
LEAR	18	0801	0808	0851	S11	E12	4115	03	19.2	50	1B		3	C		351		F
PEKG	18	0806	0808	0820	S11	E09		03	19.0	14	1N		3	P	0808	210	2.2	FJ
BUCA	18	0810E	0812	0835	S10	E08		03	18.9	25D	1N		3	C	0812	483	5.0	E
RAMY	18	1329	1334	1339	S11	E41	4118	03	21.6	10	SN		3	C		48		
RAMY	18	1413	1420	1445	S08	E31	4116	03	20.9	32	SB		3	C		88		
RAMY	18	1459	1508	1536	S06	E31	4116	03	20.9	37	SN		3	C		140		

H - ALPHA SOLAR FLARES

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Mar 83

MARCH 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	(Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	
A	HOLL	18 1507E	1507U	1522D	S05	E30	4116	03	20.9	15D	SF	3	C		43		F	
	RAMY	18 1550	1556	1609	S13	E06	4115	03	19.1	19	SN	3	C		43			
	[	HOLL	18 1550E	1621	1652	S12	E07	4115	03	19.2	62D	SF	3	C		29		F
		RAMY	18 1632	1641	1650	S15	E03	4115	03	18.9	18	SF	3	C		41		
		RAMY	18 1744	1745	1825	S15	E02	4115	03	18.9	41	SF	3	C		30		
	[	RAMY	18 1851	1854	1925	S08	E28	4116	03	20.9	34	1B	3	C		226		
		HOLL	18 1852	1854	1920	S08	E28	4116	03	20.9	28	SB	3	C		180		FE
		LEAR	19 0029	0035	0047	S13	E02	4115	03	19.2	18	SF	3	C		23		
		LEAR	19 0159	0200	0210	S13	E00	4115	03	19.1	11	SF	3	C		73		
		LEAR	19 0300	0305	0307	S12	E01	4115	03	19.2	7	SF	3	C		51		F
		LEAR	19 0308	0316	0339	S12	W01	4115	03	19.1	31	SF	3	C		71		F
		LEAR	19 0557	0605	0654	S07	E20	4116	03	20.7	57	SF	3	C		42		
		RAMY	19 1421	1424	1431	S14	W04	4115	03	19.3	10	SN	3	C		30		
		PALE	20 0046	0048U	0110	S12	W10	4115	03	19.3	24	SF	3	C		42		
		LEAR	20 0127	0130	0150	S14	W11	4115	03	19.2	23	SF	3	C		41		
	[	PALE	20 0128	0132	0142	S13	W13	4115	03	19.1	14	SF	3	C		40		
		LEAR	20 0254	0259	0322	S13	W13	4115	03	19.1	28	SF	3	C		46		F
	[	PALE	20 0254	0255	0324	S12	W12	4115	03	19.2	30	SF	3	C		40		F
		PEKG	20 0257E	0300U	0326D	S13	W13		03	19.1	29D	SN	3	P	0300	59	.6	E
		LEAR	20 0525	0530	0559	S13	W15	4115	03	19.1	34	SN	3	C		71		F
		LEAR	20 0653	0656	0714	S13	E02	4116	03	20.4	21	SF	3	C		44		F
		LEAR	21 0310	0313	0334	S13	W28	4115	03	19.0	24	SF	3	C		64		F
	[	RAMY	21 1528	1537	1608	S12	W35	4115	03	19.0	40	SF	3	C		103		
		HOLL	21 1529	1544	1602D	S14	W39	4115	03	18.7	33D	SF	3	C		99		
	[	RAMY	21 2014	2019	2048	S12	W36	4115	03	19.1	34	SN	3	C		93		
		HOLL	21 2014	2019	2030	S10	W36	4115	03	19.1	16	SN	3	C		97		F
	[	PALE	21 2017	2017U	2026D	S12	W37	4115	03	19.1	9D	SF	3	C		53		F
		HOLL	21 2123	2125	2147	S11	W36	4115	03	19.2	24	SN	3	C		81		F
		LEAR	22 0157	0157	0205	S13	W39	4115	03	19.1	8	SF	3	C		45		F
		LEAR	22 0246	0246	0257	S13	W40	4115	03	19.1	11	SF	3	C		64		F
		LEAR	22 0345	0346	0409	S13	W04	4118	03	21.9	24	SF	3	C		23		
		PALE	22 1935	1935	1946	S11	W11	4118	03	22.0	11	SF	3	C		23		
		LEAR	23 0124	0125	0201	S12	W14	4121	03	22.0	37	SF	3	C		56		F
		LEAR	23 0721	0734	0803	S12	W18	4121	03	21.9	42	SF	3	C		73		
	[	PEKG	23 0724	0727	0744	S11	W19		03	21.9	20	SF	3	C	0727	67	.7	E
		LEAR	23 0747	0752	0753	S11	W58	4115	03	19.0	6	SF	3	C		20		
	[	PEKG	23 0844	0847	0858	S13	E17		03	24.6	14	SF	3	C	0847	63	.7	E
		ISTA	23 0855		0902	S13	E17		03	24.7	7	SF						E
		RAMY	23 1348	1348	1354	S12	W65	4115	03	18.7	6	SF	3	C		17		
		RAMY	23 1440	1441	1449	S15	E58		03	28.0	9	SN	3	C		32		
		RAMY	23 1526	1534	1545	S12	W23	4121	03	21.9	19	SF	3	C		36		F
	[	RAMY	23 1852	1853	1859	S12	W64	4115	03	19.0	7	SB	3	C		105		
		PALE	23 1853	1853	1900	S11	W68	4115	03	18.7	7	SB	3	C		98		
	[	RAMY	23 1927	1929	1956	S13	W21	4121	03	22.2	29	SF	3	C		42		
		PALE	23 1930	1931	1948	S14	W23	4121	03	22.1	18	SF	3	C		26		F
		LEAR	24 0052	0053	0127	S12	W29	4121	03	21.8	35	SF	3	C		108		F
		HOLL	24 1511	1511	1517	S13	E00	4120	03	24.6	6	SF	3	C		20		
	[	PALE	24 1733	1734	1748	S08	W54	4116	03	20.7	15	SF	3	C		33		F
		RAMY	24 1734	1736	1745	S07	W53	4116	03	20.8	11	SF	3	C		26		
		HOLL	25 1422E	1437U	1451D	S11	E76	4125	03	31.3	29D	SN	3	C		65		F
		HOLL	25 1434E	1436U	1451D	S08	W67	4116	03	20.6	17D	SN	3	C		30		
	[	MANI	25 2334	2342	0003	N20	W55		03	21.8	29	SN	1	V		30	.6	F
		LEAR	25 2339	2347	0004	N19	W50	4124	03	22.2	25	SN	3	C		19		
		LEAR	26 0127	0127	0138	N20	W56	4124	03	21.8	11	SF	3	C		17		
		LEAR	26 0219	0221	0226	S14	W19	4120	03	24.7	7	SF	3	C		23		
		LEAR	26 0230	0242	0403	N20	W58	4124	03	21.7	93	SN	3	C		43		
	[	PEKG	26 0245E	0246	0248D	N22	W59		03	21.6	3D	SF	3	C	0246	76	1.7	E
		LEAR	26 0730	0732	0749	N20	W59	4124	03	21.8	19	SF	3	C		65		
	[	HOLL	26 1455	1503	1541	N21	W64	4124	03	21.7	46	SF	3	C		17		
		RAMY	26 1458	1459	1538	N20	W63	4124	03	21.8	40	SF	3	C		16		
	[	HOLL	26 1543E	1648U	1805	N20	W65	4124	03	21.7	142D	SN	3	C		54		H
		RAMY	26 1551	1646	1657	N20	W64	4124	03	21.8	66	SF	3	C		48		
		RAMY	26 1705	1716	1725	N20	W63	4124	03	21.9	20	SF	3	C		31		

H - ALPHA SOLAR FLARES

MARCH 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	(Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	
[	RAMY	26	1728	1747	1757	N20 W63	4124	03	21.9	29	SN		3	C		26		
[	PALE	26	1743	1747	1752	N20 W68	4124	03	21.5	9	SN		3	C		13		
	PALE	26	1814	1816	1820	N19 W69	4124	03	21.5	6	SN		3	C				
	PALE	26	1851	1856	1904	N19 W69	4124	03	21.5	13	SF		3	C				
[	PALE	26	1913	1918	1925	N19 W68	4124	03	21.6	12	SN		3	C		32		
[	RAMY	26	1913	1920	1925	N21 W65	4124	03	21.8	12	SN		3	C		46		
[	HOLL	26	2051	2109	2115	N22 W70	4124	03	21.5	24	SN		3	C		12		
[	RAMY	26	2055	2102	2106	N20 W63	4124	03	22.0	11	SF		3	C		17		
[	HOLL	27	1841	1908	1938	S17 E32	4128	03	30.2	57	SN		3	C		139		F
[	PALE	27	1859E	1910	1923	S15 E33	4128	03	30.3	24D	SF		4	C		110		U
[	PEKG	28	0753	0825	0838	S17 E23		03	30.1	45	SF			C	0825	84	.9	E
[	ATHN	28	0807E	0815	0825	S15 E25		03	30.2	18D	SN		3	V	0815	95	1.2	E
	PEKG	29	0115	0123	0150	S13 E17		03	30.3	35	SF			C	0123	88	.9	E
	HOLL	29	2033	2040	2059	S17 E05	4128	03	30.2	26	SN		3	C		53		F
	HOLL	30	0030	0036U	0052	S17 E31	4127	04	1.4	22	SN		2	C		101		F
	LEAR	30	0847	0848	0852	S18 E27	4127	04	1.4	5	SF		3	C		24		
	PALE	31	0324	0324	0327	S18 E20	4127	04	1.7	3	SF		3	C		20		

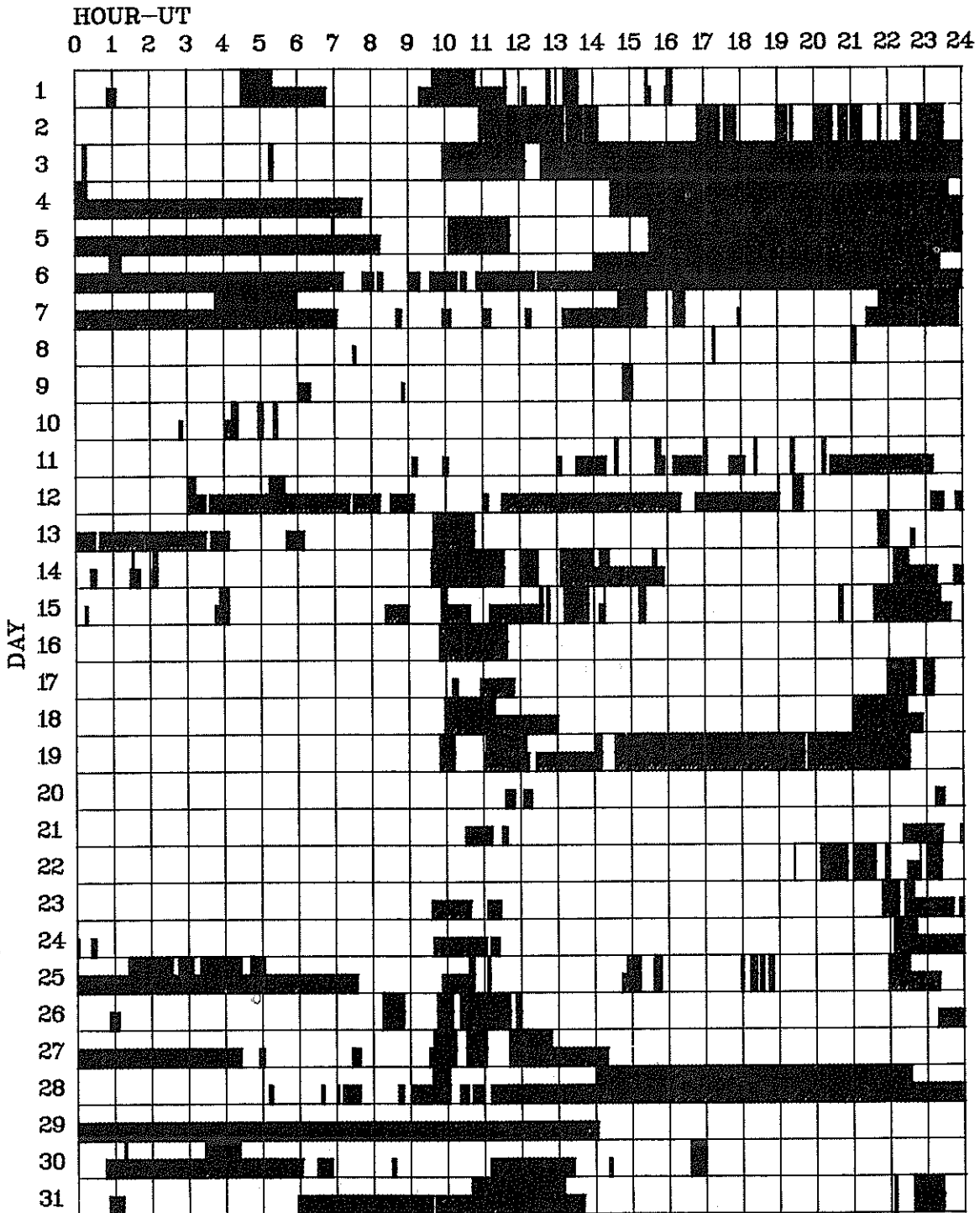
"Remarks":

- | | |
|--|--|
| <p>A = Eruptive prominence whose base is less than 90° from central meridian.
 B = Probably the end of a more important flare.
 C = Invisible 10 minutes before.
 D = Brilliant point.
 E = Two or more brilliant points.
 F = Several eruptive centers.
 G = No visible spots in the neighborhood.
 H = Flare accompanied by high-speed dark filament.
 I = Active region very extended.
 J = Distinct variations of plage intensity before or after the flare.
 K = Several intensity maxima.
 L = Existing filaments show signs of sudden activity.
 M = White-light flare.
 N = Continuous spectrum shows effects of polarization.</p> | <p>O = Observations have been made in the H and K lines of Call.
 P = Flare shows helium D3 in emission.
 Q = Flare shows Balmer continuum in emission.
 R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
 S = Brightness follows disappearance of filament in same position.
 T = Region active all day.
 U = Two bright branches, parallel or converging.
 V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
 W = Great increase in area after time of maximum intensity.
 X = Unusually wide H-alpha line.
 Y = System of loop-type prominences.
 Z = Major sunspot umbra covered by flare.</p> |
|--|--|

The 4-digit number appearing under "Remarks" denotes the calcium plage region number assigned by the Space Environment Services Center in Boulder, Colorado.

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

MARCH 1983



Observatories included in total patrol:

Athens	Holloman	Learmonth	Palehua	Ramey
Bucharest	Istanbul	Manila	Peking	Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

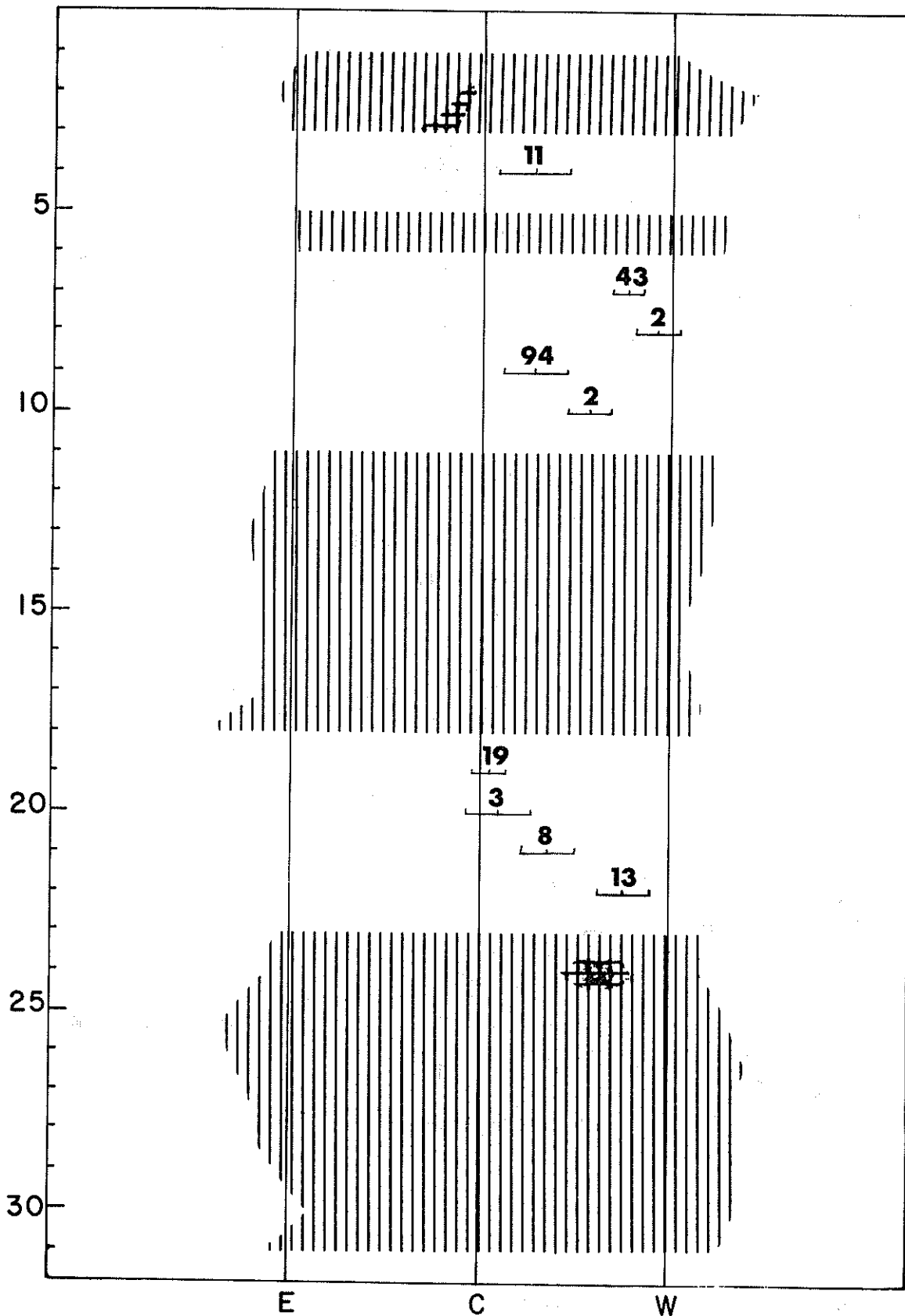
20
Mar 83

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATION

MARCH 1983

Nangay

169 MHz

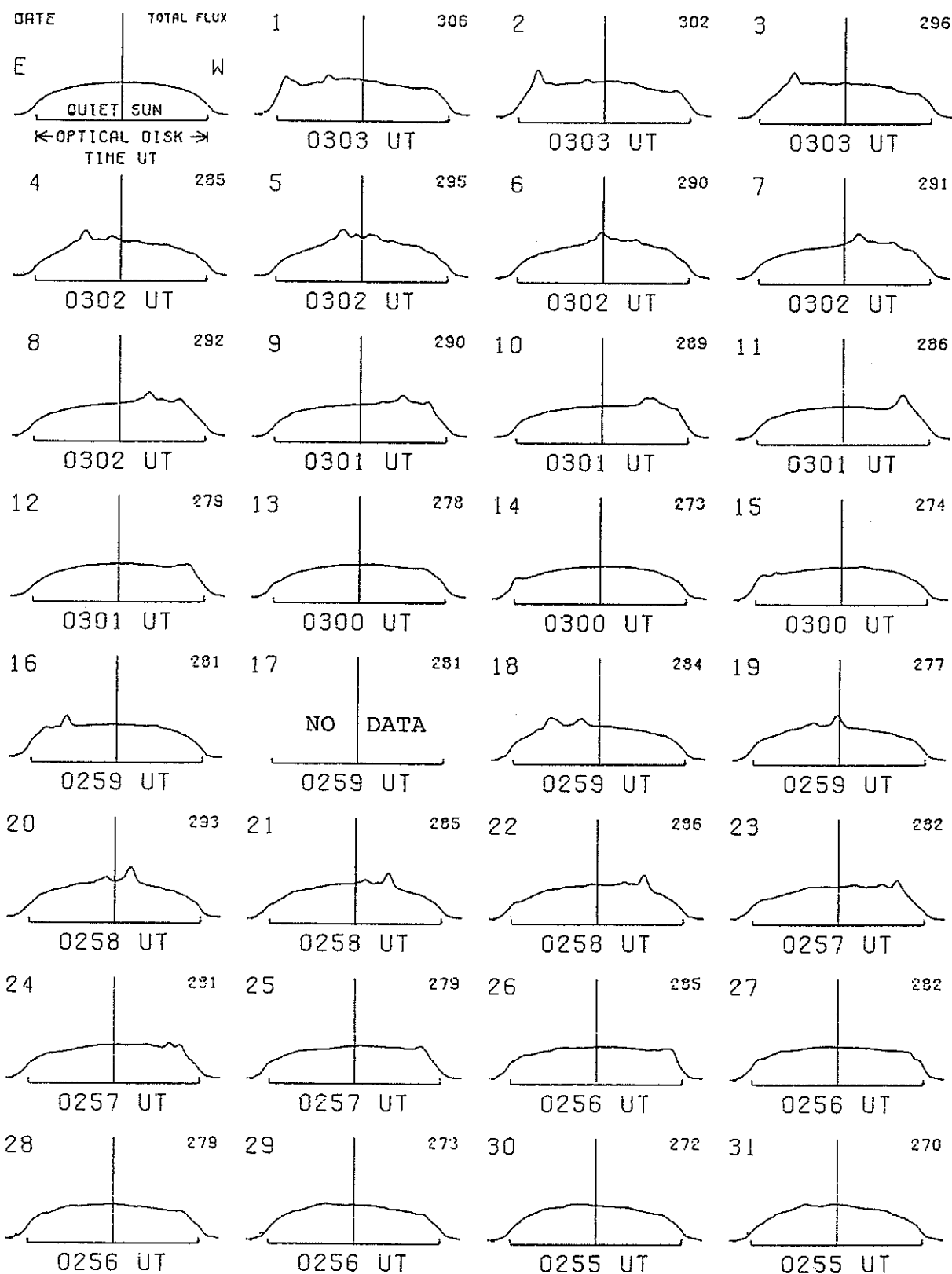


EAST-WEST SOLAR SCANS

MARCH 1983

TOYOKAWA, JAPAN

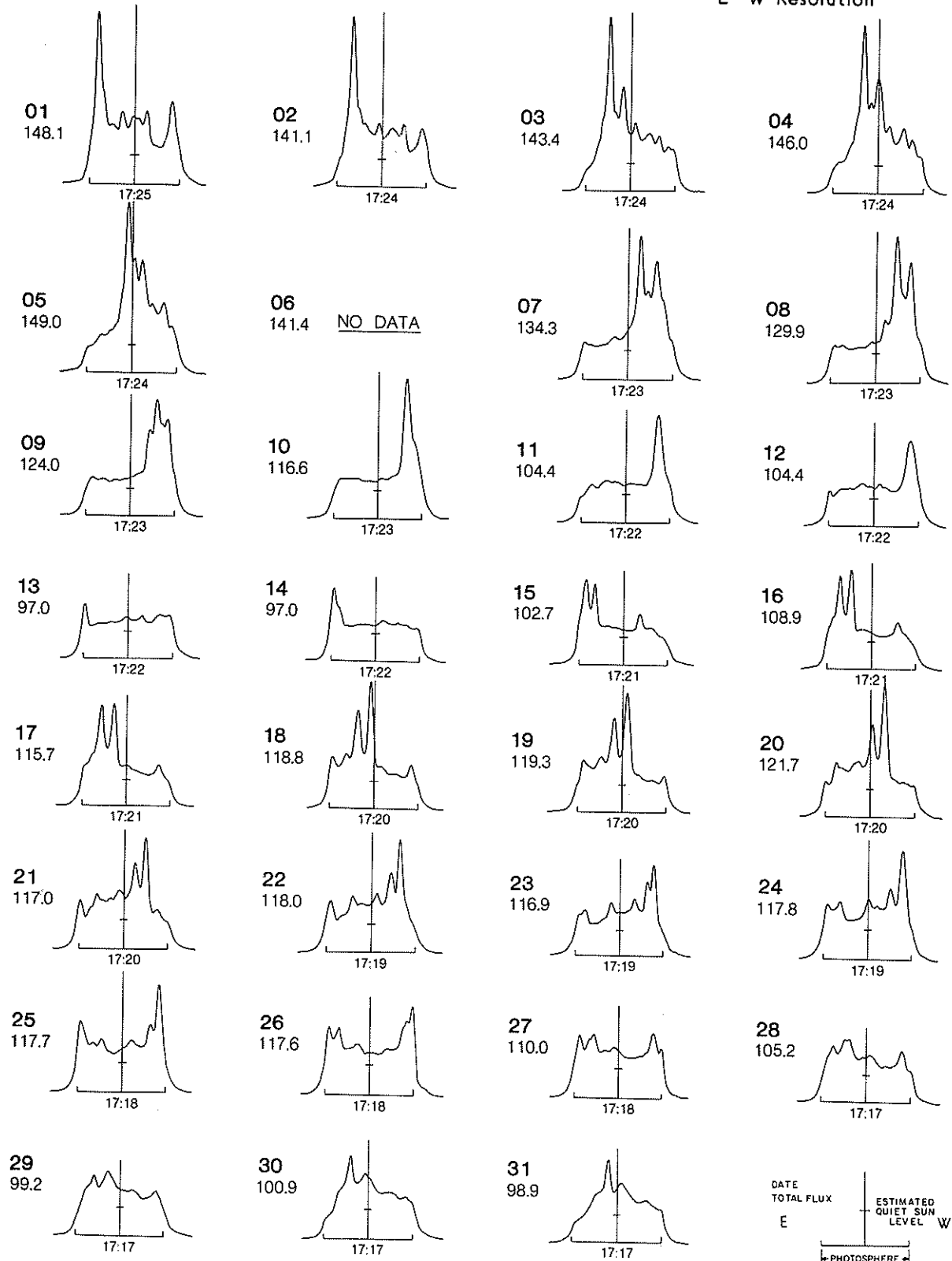
3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



EAST-WEST SOLAR SCANS MARCH 1983

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7 cm
Fan Beam with 1.5 minutes of arc
E-W Resolution

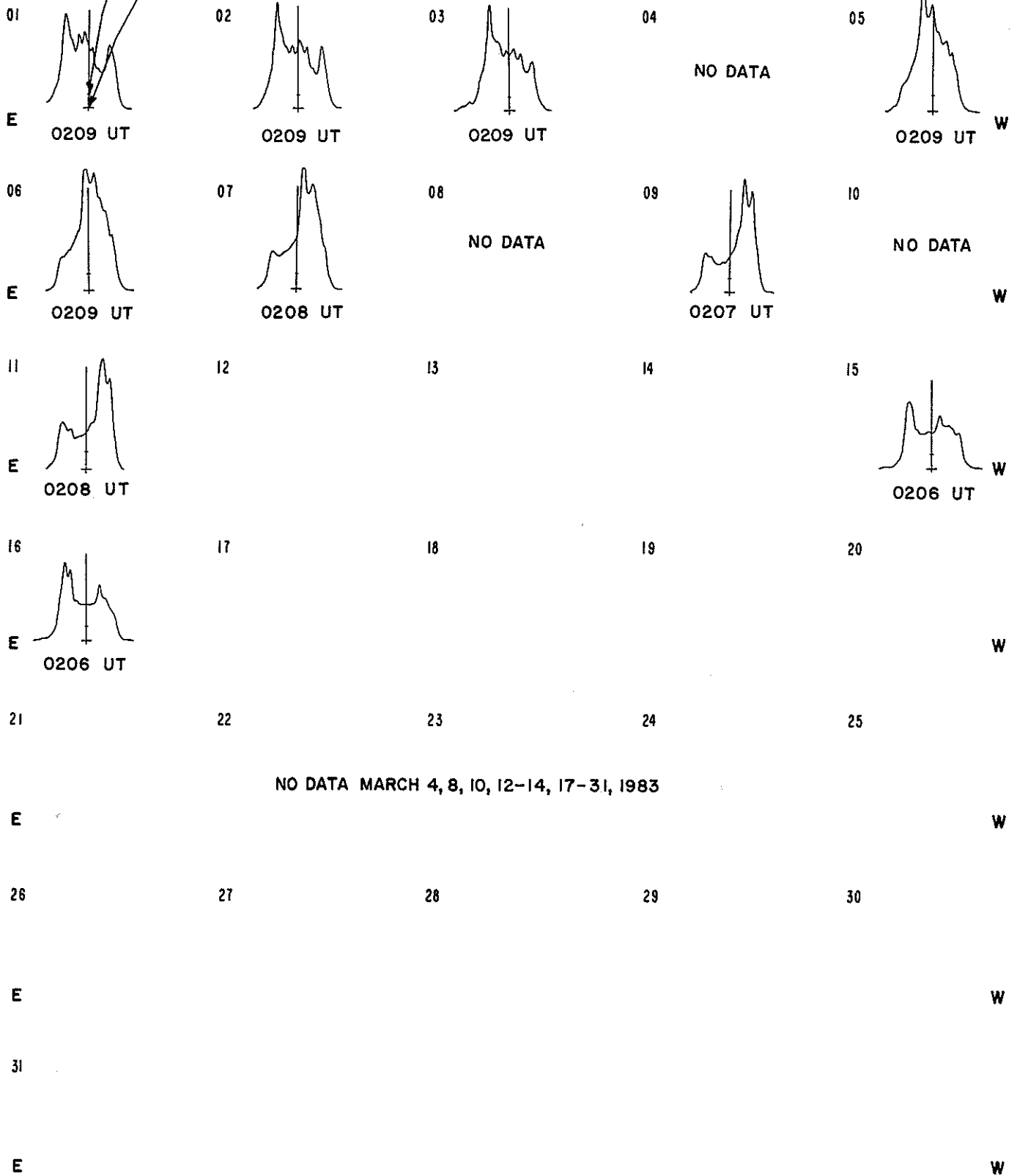


EAST-WEST SOLAR SCANS
MARCH 1983

Fleurs, Australia

Estimated Quiet Sun Level
Cold Sky Level

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



NO DATA MARCH 4, 8, 10, 12-14, 17-31, 1983

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Mar 83

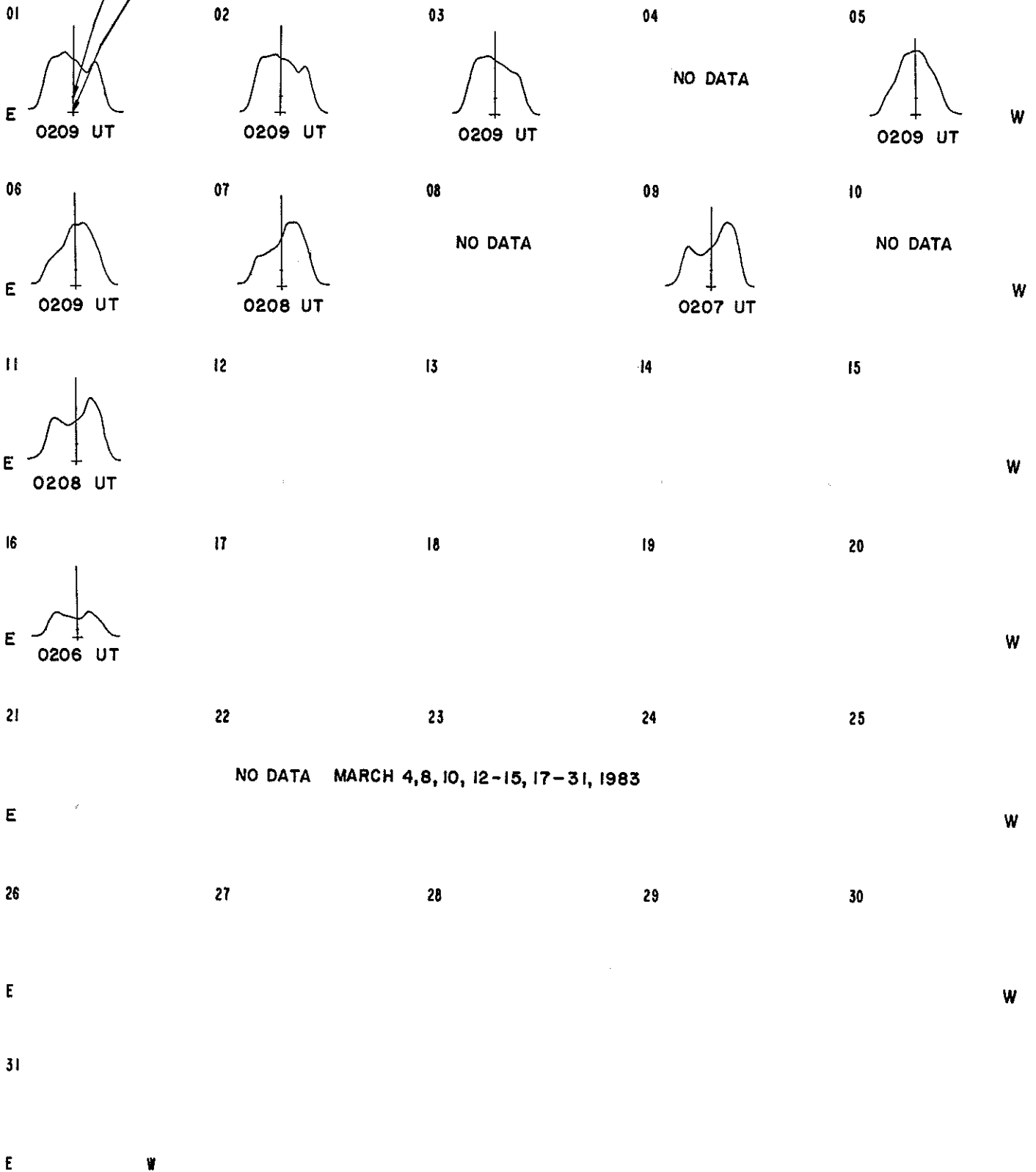
EAST-WEST SOLAR SCANS

MARCH 1983

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution

Estimated Quiet Sun Level
Cold Sky Level



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MARCH 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
01	2800	OTTA	240 R	1332.0	1343.0	11.0	3.0	2.0		
	2800	OTTA	8 S	1618.2	1618.2	.1	4.0			
	2800	OTTA	20 GRF	1939.0	2002.0	41.0D	2.6	1.4		
	2800	OTTA	21 GRF	2052.0	2113.0	130.0	9.0	4.3		
	2800	OTTA	1 S	2054.0	2054.7	2.0	6.4	3.2		
	8800	PALE	8 S	2054.5	2054.6	.3	13.0			QL=6 ST=2 TYP=3
	2800	OTTA	8 S	2105.0	2105.2	.3	5.6			
	2800	OTTA	8 S	2105.9	2106.0	.5	2.6			
	2800	OTTA	8 S	2112.0	2112.3	.7	8.6	2.8		
	2695	PENT	3 S	2312.5	2313.0	1.5	21.0	9.0		
	2695	LEAR	8 S	2312.8	2313.0	2.0	23.0			QL=6 ST=3 TYP=3
2695	PENT	29 PBI	2314.0	2314.0	7.0	4.6	1.8			
2695	PENT	8 S	2324.9	2325.2	.8	2.0	1.0			
02	2800	OTTA	27 RF	1547.0		63.0	2.2	1.9		
	2800	OTTA	24 R	1547.0	1551.0	4.0	2.2	1.1		
	2800	OTTA	24P R	1551.0		49.0	2.2			
	2800	OTTA	26 FAL	1640.0	1650.0	10.0	-2.2	-1.1		
	8800	PALE	49 GB	1921.1	1922.1	5.7	440.0			QL=5 ST=2 TYP=6
	2800	OTTA	20 GRF	2030.0	2110.0	70.0	2.4	1.7		
03	2800	OTTA	1 S	1347.0	1348.5	8.0	2.2	1.1		
04	2800	OTTA	20 GRF	1905.0	1930.0	45.0	3.4	1.7		
	2800	OTTA	20 GRF	2055.0	2130.0	50.0	2.6	1.4		
05	2800	OTTA	21 GRF	1425.0	1600.0	115.0	4.6	2.3		
	2800	OTTA	8 S	1544.2	1544.3	.3	2.8			
	2800	OTTA	8 S	1557.3	1557.6	.7	3.2	1.6		
	2800	OTTA	1 S	1833.0	1834.5	6.0	2.8	1.0		
06	2800	OTTA	20 GRF	1930.0	1955.0	75.0	2.0	1.0		
08	2695	LEAR	8 S	0551.1	0551.6	.7	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0849.0	0849.5	1.0	10.0			QL=6 ST=2 TYP=3
	2800	OTTA	2 S/F	1351.0	1352.2	3.0	5.2			
	2800	OTTA	21 GRF	1540.0	1555.0	30.0	2.8	1.6		
	2800	OTTA	2 S/F	1543.0	1543.8	1.0	2.6	1.3		
	2800	OTTA	20 GRF	1645.0	1710.0	60.0	2.8	1.4		
	2800	OTTA	21 GRF	1825.0	1839.0	35.0	3.6	1.5		
	2800	OTTA	1 S	1825.5	1826.1	2.5	2.6	1.4		
	2800	OTTA	21 GRF	1910.0	1936.0	90.0	2.2	1.1		
	2800	OTTA	8 S	1913.0	1913.2	.3	2.2	1.1		
	2800	OTTA	20 GRF	1954.0	1955.0	12.0	2.8	1.4		
	2800	OTTA	21 GRF	2110.0	2150.0	155.0	2.8	2.0		
	2800	OTTA	1 S	2140.5	2141.2	1.5	2.0	1.0		
	09	2695	PENT	45 C	0010.2	0011.3	7.8	11.6	5.8	
2695		LEAR	4 S/F	0010.3	0011.5	4.2	11.0			QL=6 ST=2 TYP=3
8800		LEAR	8 S	0010.6	0011.5	1.0	13.0			QL=6 ST=3 TYP=3
2695		PENT	29 PBI	0018.0	0018.0	20.0D	2.8			
8800		ATHN	4 S/F	1318.1	1327.6	10.0	42.0			QL=5 ST=2 TYP=3
2695		PENT	20 GRF	1340.0	1345.0	15.0	1.8	.9		
2800		OTTA	20 GRF	1440.0	1450.0	20.0	2.0	1.0		
2800		OTTA	20 GRF	2100.0	2145.0	90.0	2.2	1.1		
2695		PENT	1 S	2254.0	2257.0	8.0	5.8	2.0		
10		8800	LEAR	4 S/F	0005.6	0008.1	7.0	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	4 S/F	0005.8	0008.1	7.2	26.0			QL=6 ST=2 TYP=3
	2695	PENT	4 S/F	0006.0	0008.8	7.0	24.0	10.0		
	2695	PALE	4 S/F	0007.6	0009.1	2.9	21.0			QL=6 ST=2 TYP=3
	2695	PENT	1 S	0014.0	0014.1	1.0	4.2	2.0		
	8800	LEAR	8 S	0838.5	0840.1	1.6	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0838.8	0840.1	1.5	11.0			QL=6 ST=2 TYP=3
	2695	LEAR	20 GRF	0848.3	0901.8	53.0	39.0			QL=6 ST=2 TYP=2
	8800	LEAR	20 GRF	0849.0	0851.8	2.8	21.0			QL=6 ST=2 TYP=2
	2800	OTTA	260 FAL	1430.0	1505.0	35.0	-2.6	-1.3		
	2800	OTTA	260 FAL	1625.0	1650.0	25.0	-2.2	-1.1		
	11	2800	OTTA	1 S	1635.0	1635.7	2.0	2.2	1.1	

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MARCH 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks
11	2695	SGMR	8 S	1816.0	1816.1	.3	13.0			QL=6 ST=2 TYP=3
12	2800	OTTA	21 GRF	1415.0		375.0	4.4	2.2		
	2800	OTTA	45 C	1420.0	1420.5	4.0	41.0	20.5		
	2695	SGMR	4 S/F	1420.1	1420.6	3.5	43.0			QL=6 ST=2 TYP=3
	8800	SGMR	4 S/F	1420.3	1421.8	3.7	24.0			QL=5 ST=2 TYP=3
	8800	ATHN	4 S/F	1420.6	1421.1	4.2	13.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	1420.6	1421.1	4.2	44.0			QL=6 ST=2 TYP=3
	2800	OTTA	29 PBI	1424.0	1424.0	6.0	4.2	1.4		
	2695	LEAR	4 S/F	2305.3	2306.6	3.5	13.0			QL=6 ST=2 TYP=3
13	2800	OTTA	20 GRF	1834.0	1836.4	12.0	5.4	2.0		
14	2800	OTTA	27 RF	1750.0		190.0	2.0	1.8		
	2800	OTTA	24 R	1750.0	1806.0	16.0	2.0	.7		
	2800	OTTA	24P R	1806.0		144.0	2.0			
	2800	OTTA	26 FAL	2030.0	2100.0	30.0	-2.0	-1.0		
15	2800	OTTA	1 S	1256.0	1257.1	7.0	7.4	2.4		
	2800	OTTA	20 GRF	1645.0	1920.0	300.0	5.6	2.8		
16	8800	LEAR	4 S/F	0347.0	0348.6	2.8	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0348.3	0348.6	1.5	4.0			QL=6 ST=2 TYP=3
	2800	OTTA	240 R	1635.0	1655.0	20.0	1.8	1.0		
	2800	OTTA	1 S	2050.2	2050.5	1.2	5.0			
	2800	OTTA	21 GRF	2130.0	2215.0	210.00	7.8			
	2800	OTTA	8 S	2137.5	2137.5	.1	3.0			
	2800	OTTA	46F C	2159.7	2200.0	5.0	30.0	10.0		
	2695	SGMR	8 S	2159.8	2200.1	.5	29.0			QL=6 ST=2 TYP=3
	8800	SGMR	4 S/F	2159.8	2201.3	2.2	30.0			QL=6 ST=2 TYP=3
	8800	PALE	4 S/F	2159.8	2201.5	3.0	46.0			QL=6 ST=2 TYP=3
17	2695	LEAR	4 S/F	0223.1	0224.6	5.4	21.0			QL=6 ST=2 TYP=3
	8800	LEAR	47 GB	0223.1	0224.6	12.9	73.0			QL=6 ST=2 TYP=5
	8800	ATHN	4 S/F	0723.1	0724.3	4.4	13.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	0723.3	0725.6	4.2	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	4 S/F	0723.5	0724.0	3.3	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0723.8	0725.5	2.0	16.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0731.1	0731.5	.7	5.0			QL=6 ST=2 TYP=3
	8800	ATHN	47 GB	0900.5	0900.6	12.0	83.0			QL=6 ST=3 TYP=5
	8800	LEAR	47 GB	0900.5	0900.8	7.8	110.0			QL=6 ST=2 TYP=5
	2695	ATHN	4 S/F	0900.5	0901.6	7.3	34.0			QL=6 ST=3 TYP=3
	2695	LEAR	4 S/F	0900.5	0902.3	6.6	40.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	1055.0	1100.3	10.1	4.0			QL=6 ST=2 TYP=3
	2800	OTTA	3 S	1234.3	1234.5	1.0	12.6	6.5		
	2800	OTTA	21 GRF	1332.0	1520.0	200.0	7.6	4.0		
	2800	OTTA	46F C	1333.2	1334.0	5.8	48.0	17.8		
	2695	SGMR	4 S/F	1333.6	1334.6	6.7	48.0			QL=6 ST=3 TYP=3
	8800	SGMR	4 S/F	1334.1	1334.6	4.9	47.0			QL=6 ST=3 TYP=3
	2800	OTTA	29 PBI	1339.0	1339.0	16.0	5.6	2.6		
	2800	OTTA	240 R	1815.0	1930.0	75.0	3.8	1.9		
	2800	OTTA	46F C	2011.0	2012.3	7.0	200.0	59.0		
	2695	SGMR	47 GB	2011.1	2012.1	9.7	270.0			QL=6 ST=3 TYP=5
	8800	SGMR	47 GB	2011.1	2012.5	10.0	219.0			QL=6 ST=3 TYP=5
	8800	PALE	47 GB	2011.6	2012.6	6.0	219.0			QL=6 ST=2 TYP=5
	2695	PALE	47 GB	2012.8	2013.3		370.0			QL=6 ST=1 TYP=5
	2800	OTTA	29 PBI	2018.0	2018.0	130.0	11.8	5.9		
	2695	PENT	240 R	2300.0	2355.0	55.0	4.0	2.2		
18	2695	PENT	3 S	0049.8	0051.3	5.0	22.6	7.6		
	8800	LEAR	4 S/F	0153.3	0153.8	12.3	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	4 S/F	0153.6	0158.1	5.5	7.0			QL=6 ST=2 TYP=3
	8800	ATHN	47 GB	0438.0	0440.5	4.5	210.0			QL=6 ST=2 TYP=5
	2695	ATHN	47 GB	0438.1	0440.6	4.5	51.0			QL=6 ST=2 TYP=5
	8800	LEAR	47 GB	0439.6	0440.1	2.2	130.0			QL=6 ST=2 TYP=5
	2695	LEAR	8 S	0440.0	0440.1	.8	22.0			QL=6 ST=2 TYP=3
	2695	ATHN	47 GB	0806.6	0807.8	9.0	86.0			QL=6 ST=2 TYP=5
	2695	LEAR	47 GB	0806.6	0807.8	7.5	80.0			QL=6 ST=2 TYP=5
	8800	ATHN	4 S/F	0806.6	0810.6	9.0	27.0			QL=6 ST=2 TYP=3
	8800	LEAR	4 S/F	0810.1	0810.3	3.4	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	21 GRF	1330.0	1510.0	165.0	3.6	1.8		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

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Mar 83

MARCH 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m ² Hz)	Mean		
18	2800	OTTA		1407.0		12.00	5.0			
	2800	OTTA	1 S	1548.0	1550.0	4.0	1.6	1.2		
	2800	OTTA	21 GRF	1815.0	1910.0	105.0	4.8	2.2		
	2800	OTTA	2 S/F	1852.0	1852.5	1.5	8.8	4.0		
19	2800	OTTA	20 GRF	1200.0	1300.0	110.0	4.6	3.2		
	2800	OTTA	20 GRF	1420.0	1515.0	90.0	2.4	1.4		
	2800	OTTA	240AR	1637.0	1700.0	23.0	2.0	1.0		
	2800	OTTA	8 S	1637.8	1638.0	.8	1.6	.8		
20	8800	LEAR	8 S	0722.8	0723.3	.5	20.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0722.8	0723.3	.5	6.0			QL=6 ST=2 TYP=3
	8800	LEAR	8 S	0731.1	0731.3	.5	18.0			QL=6 ST=2 TYP=3
	2800	OTTA	2 S/F	1712.8	1713.5	1.0	3.4	1.2		
21	8800	LEAR	8 S	0226.8	0227.0	.5	9.0			QL=5 ST=2 TYP=3
	2695	LEAR	8 S	0226.8	0227.0	.3	7.0			QL=5 ST=2 TYP=3
	2695	LEAR	8 S	0310.1	0311.1	2.0	15.0			QL=6 ST=2 TYP=3
	8800	LEAR	8 S	0310.1	0311.1	1.2	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	1527.0	1529.0	25.0	5.0	2.0		
	2800	OTTA	32 ABS	1605.0	1715.0	115.0	-2.6	-1.3		
	2800	OTTA	1 S	2016.5	2017.0	1.0	1.6	.8		
	2800	OTTA	21 GRF	2105.0	2130.0	45.0	2.0	1.0		
	2800	OTTA	1 S	2122.8	2124.7	3.0	4.6	2.0		
	8800	LEAR	8 S	2310.3	2310.8	1.0	16.0			QL=5 ST=2 TYP=3
	2695	LEAR	8 S	2310.3	2310.8	1.0	6.0			QL=5 ST=2 TYP=3
22	8800	LEAR	4 S/F	0245.1	0245.8	2.7	13.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	2000.0	2025.0	120.0	2.4	1.6		
23	2800	OTTA	1 S	1852.0	1852.5	1.5	7.0	1.8		
	2695	SGMR	8 S	1852.3	1852.6	1.0	30.0			QL=6 ST=2 TYP=3
	2695	PENT	20 GRF	2255.0	2330.0	85.0	2.2	1.1		
24	2800	OTTA	20 GRF	1730.0	1733.0	40.0	2.8	1.0		
25	2800	OTTA	240 R	1320.0	1330.0	10.0	2.0	.8		
	2800	OTTA	21 GRF	1415.0	1445.0	260.0	6.8	2.3		
	2800	OTTA	4 S/F	1433.0	1437.0	9.5	10.0	3.4		
	2695	ATHN	4 S/F	1435.1	1437.3	5.0	11.0			QL=6 ST=2 TYP=3
26	2695	LEAR	4 S/F	0600.5	0606.3	6.3	16.0			QL=6 ST=2 TYP=3
	2695	ATHN	8 S	0602.6	0603.3	1.0	11.0			QL=5 ST=2 TYP=3
	2800	OTTA	20 GRF	1445.0	1630.0	195.0	3.0	1.8		
27	2800	OTTA	20 GRF	1830.0	1905.0	70.0	1.6	1.0		
28	2800	OTTA	20 GRF	1520.0	1535.0	50.0	2.2	1.1		

Observer(s):

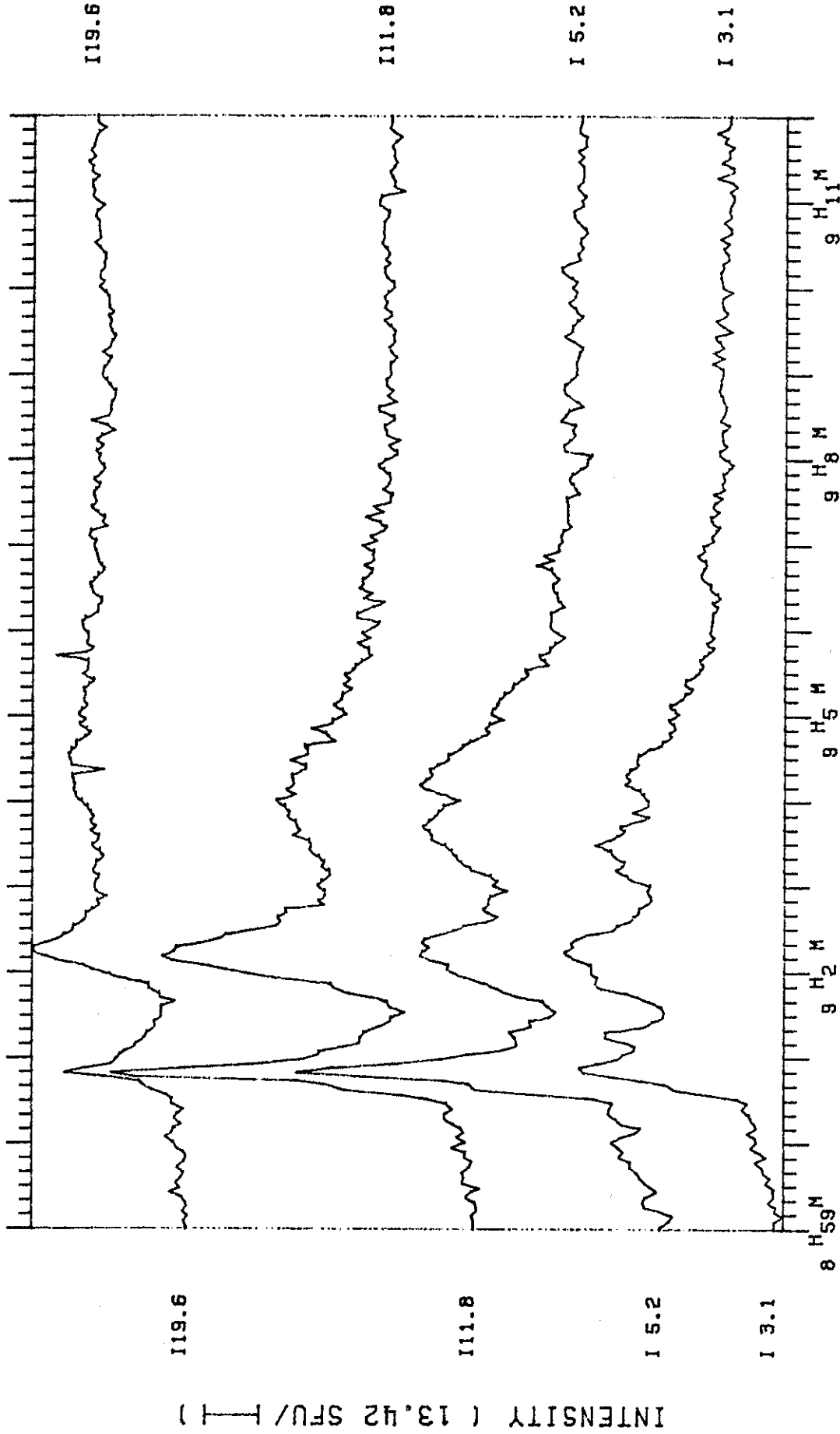
BERN = Berne MANI = Manlia OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill
LEAR = Learmonth ATHN = Athens PALE = Palohua

Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset on Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	32 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	41 Group of Bursts	47 Great Burstlike Storm
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major
				49 Major +

INSTITUTE OF APPLIED PHYSICS, UNIVERSITY OF BERN, SWITZERLAND

INTEGRATION TIME= 3000 MS



UT ON MAR. 17 1983

BOULDER GEOMAGNETIC
SUBSTORM LOG

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Mar 83

March 1983

DATE	ONSET TIME	DIR	COMMENTS	DATE	ONSET TIME	DIR	COMMENTS
03/01	1920		Field Intermittently unsettled. Localized substorm vicinity Cape Parry.	03/18	1555	West	Field Intermittently unsettled. Slow onset, recovery near 1900 UT.
03/02			Magnetic conditions 0200-2100 UT.	03/19			Field Intermittently active.
03/03	0700 0855 1100 1420 1540	West West West West West	Field intermittently active.	0620 0925 1320	East West		Localized substorm vicinity Anchorage. Moderate substorm.
03/04	0625 1205	Center West	Field unsettled all day. Several injections with recovery near 1500 UT.	03/20	0405 1420 1520	East West West	Field unsettled all day.
03/05	0540 1005 1350 1435	Center West West West	Field Intermittently active. Localized substorm vicinity Anchorage.	03/21	0035 0455 0930 1020 1115	East West West West West	Field unsettled all day. Moderate positive bay D component Boulder-Tucson. Weak substorm. Weak substorm. Weak substorm. Weak substorm.
03/06	0820 1040 1410	West West West	Field slightly unsettled. Multiple injections with recovery near 1400 UT.	03/22	0300 0830 1410	East West West	Field Intermittently unsettled. Weak substorm. Several minor injections. Slow onset.
03/07			Field Intermittently unsettled with no significant substorm activity.	03/23	0535 0655	West West	Field Intermittently unsettled.
0308	1235	West	Field intermittently unsettled.	03/24	0850		Field intermittently unsettled. Weak substorm Ft. Yukon to College.
03/09			Field intermittently unsettled with no significant substorm activity.	03/25	2225		Magstorm conditions 0300-2030 UT. Positive impulse H component mid-latitude stations.
03/10			Field slightly unsettled.	03/26			Field unsettled through 0600 UT, then slightly unsettled balance of day.
03/11	0935 1225	West West	Field unsettled after 0900 UT. Weak substorm.	03/27			Field slightly unsettled.
03/12			Magstorm conditions after 1000 UT.	03/28	0420 0915 1205	East West West	Field Intermittently active. Weak substorm.
03/13	0710		Field Intermittently unsettled. Weak onset, numerous injections with recovery near 1300 UT.	03/29	0300 0630 1125 1505 1805	West East East West	Initial onset at Anchorage, numerous injections with recovery near 1900 UT. Field strongly unsettled. Positive bays H and D components at Boulder and Tucson. Localized substorm College to Anchorage. Localized substorm College to Anchorage.
03/14	0705 0935 1150	West West	Field unsettled all day. Moderate substorm with several injections Weak substorm. Localized substorm Anchorage to College.	03/30	0330 0700 0945	East West	Field strongly unsettled. Localized substorm vicinity College.
03/15	0630 0955 1020 1250	East West West West	Field Intermittently unsettled. Weak substorm. Weak substorm. Weak substorm.	03/31	0400 0850 0915 1205 1255	East East East West	Field strongly unsettled. Several injections with recovery near 1730 UT.
03/16	0405 1145	East West	Field intermittently unsettled. Weak substorm. Moderate substorm with recovery near 1400 UT.				Field strongly unsettled.
03/17	0955 1020	West West	Field intermittently unsettled. Weak substorm. Injection into existing substorm.				Weak substorm. Localized substorm College to Anchorage.

INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2024	AUG 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2025	SEP 22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2026	OCT 19	AT	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA
2027	NOV 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2028	DEC 12	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA
2029	1982 JAN 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030	FEB 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2031	MAR 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2032	MAR 30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2033	APR 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2034	MAY 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2035	JUN 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2036	JUL 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2037	AUG 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2038	SEP 8	TA	AT	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA
2039	OCT 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2040	NOV 1	AT	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA
2041	NOV 28	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA
2042	DEC 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2043	1983 JAN 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2044	FEB 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2045	MAR 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

= definitely towards the sun = definitely away from the sun
 T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

STANFORD MEAN SOLAR MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2025	SEP 17	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2026	OCT 14	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2027	NOV 10	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2028	DEC 7	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2029	1982 JAN 3	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2030	JAN 30	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2031	FEB 26	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2032	MAR 25	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2033	APR 21	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2034	MAY 18	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2035	JUN 14	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2036	JUL 11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2037	AUG 7	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2038	SEP 3	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2039	SEP 30	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2040	OCT 27	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2041	NOV 23	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2042	DEC 20	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2043	1983 JAN 16	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2044	FEB 12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2045	MAR 11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: = FIELD >2μT, = FIELD <2μT, = -2μT ≤FIELD ≤2μT, = FIELD <-2μT
 No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

1983

1982

day	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March
01	.	-6	.	.	49	89	22	-31	42	-9	-81	.
02	.	-6	33	85	19	102	53	-15	.	-89	-8	11
03	.	23	38	75	19	84	37	-18	.	-81	15	33
04	-17	43	54	71	52	66	18	-38	10	-73	45	38
05	3	48	80	53	85	68	-6	.	-42	.	.	.
06	38	16	82	35	105	55	-41	-63	.	-22	.	51
07	60	41	77	29	81	30	-54	-61	-90	-2	.	.
08	57	69	80	42	63	-27	-76	-68	-64	.	54	65
09	24	74	68	54	59	-55	-90	.	-29	53	84	.
10	.	70	54	63	33	-74	-93	-54	-20	46	93	48
11	61	65	50	87	-30	-93	-96	-21	26	37	69	30
12	46	79	58	79	-87	-124	-100	1	29	53	.	2
13	.	87	.	43	-118	-125	-70	19	43	84	16	.
14	.	77	78	9	-121	-120	-35	34	28	84	-19	-25
15	86	72	51	-39	-144	-112	-7	37	.	.	-22	-44
16	93	51	-13	-112	-149	.	-1	52	8	39	-104	-62
17	71	38	-51	-164	-141	-49	4	.	57	10	-102	-27
18	46	27	-93	-193	-124	-28	-43	.	.	.	-67	-19
19	28	-15	-184	-201	-93	-14	55	.	64	-87	-37	-5
20	-6	-57	-237	-189	-59	12	33	22	32	-119	-7	.
21	-38	-68	-225	.	-32	40	.	33	.	.	24	19
22	-78	-93	-170	-128	-16	44	.	.	.	.	27	15
23	-113	-132	-123	-71	-12	26	17	.	.	-25	.	.
24	-107	-158	-69	-29	5	10	45	12	.	-3	-1	.
25	-93	-151	-56	-5	32	8	.	-1	.	31	.	-23
26	-104	-118	-40	12	39	18	54	-31	.	.	-49	-34
27	-117	-26	11	28	47	36	55	-58	-31	31	-66	-42
28	-122	-26	37	38	46	72	34	.	6	3	.	-17
29	-77	-10	46	48	25	57	20	.	42	-14	.	-20
30	-26	19	59	61	39	52	.	.	59	-51	.	1
31	.	46	64	53	64	.	-11	.	35	-91	.	18

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

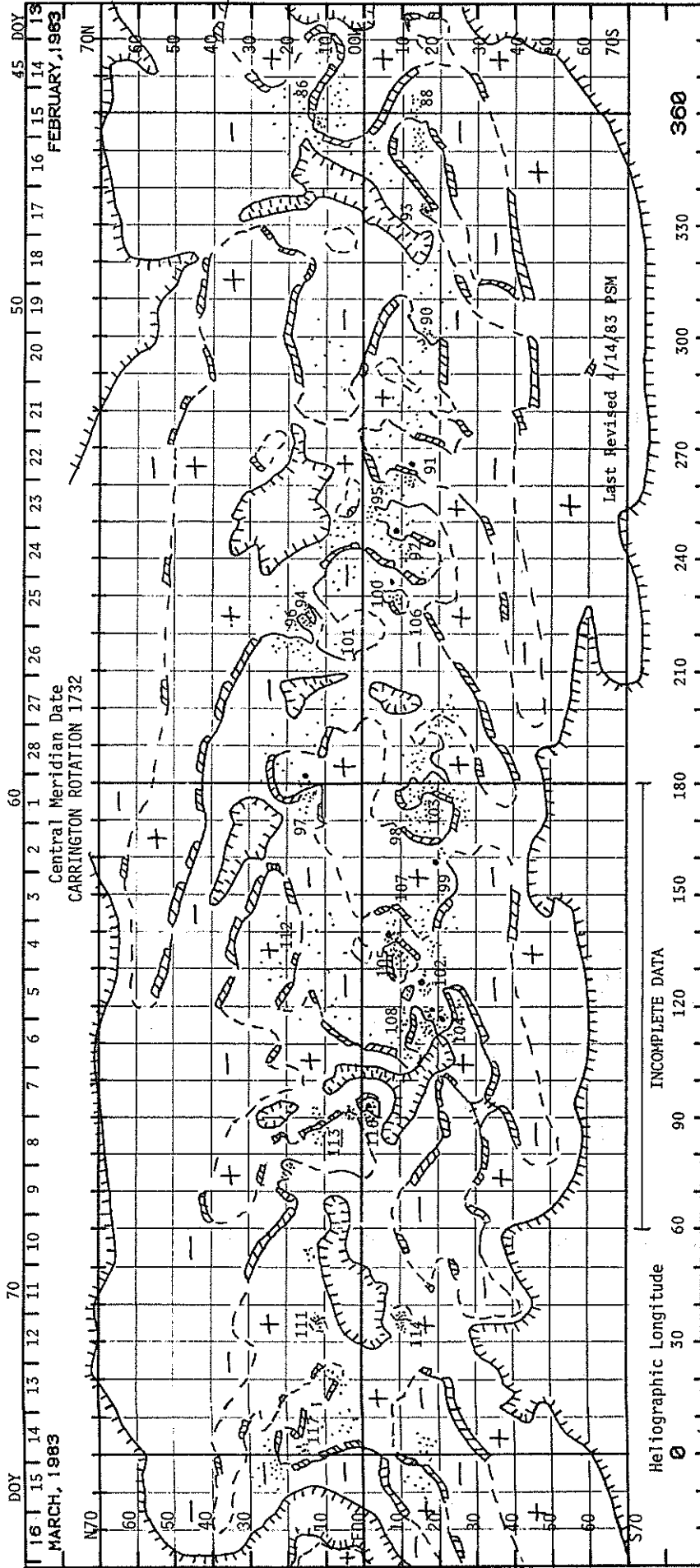
FEBRUARY 1983 DATA

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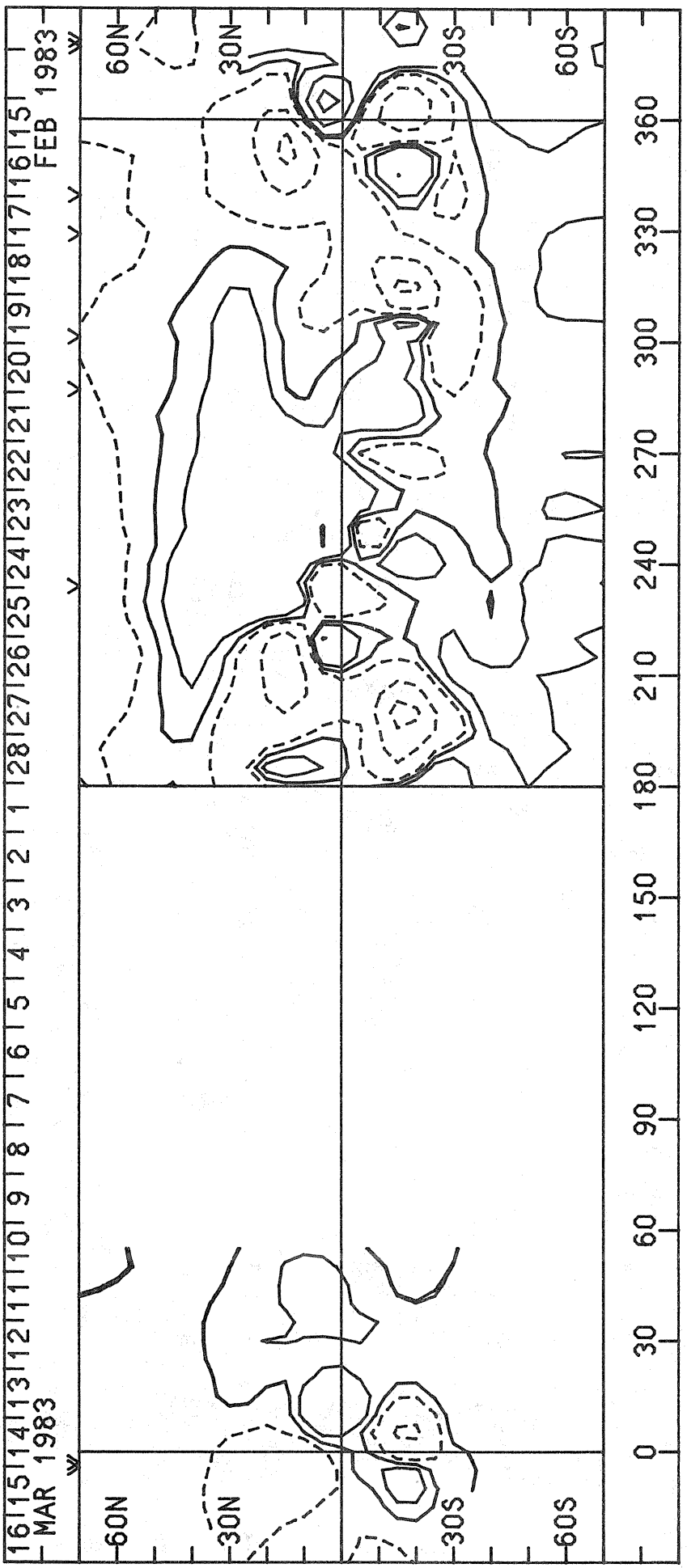
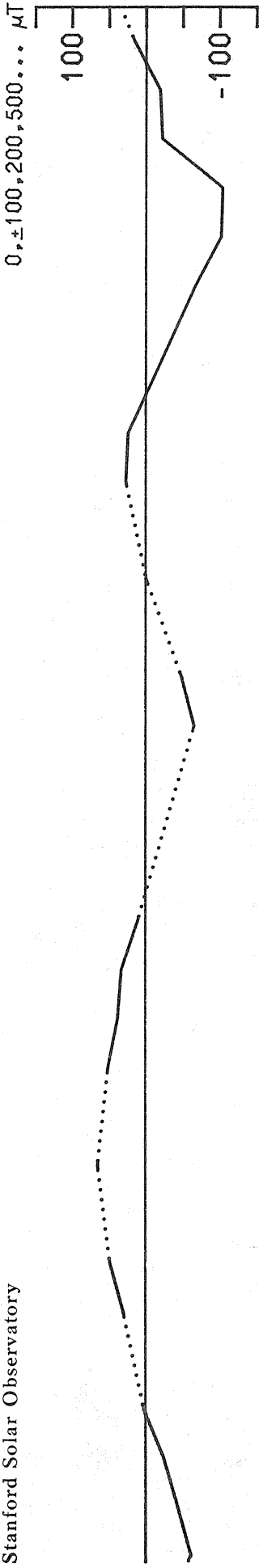
H α SYNOPTIC CHART

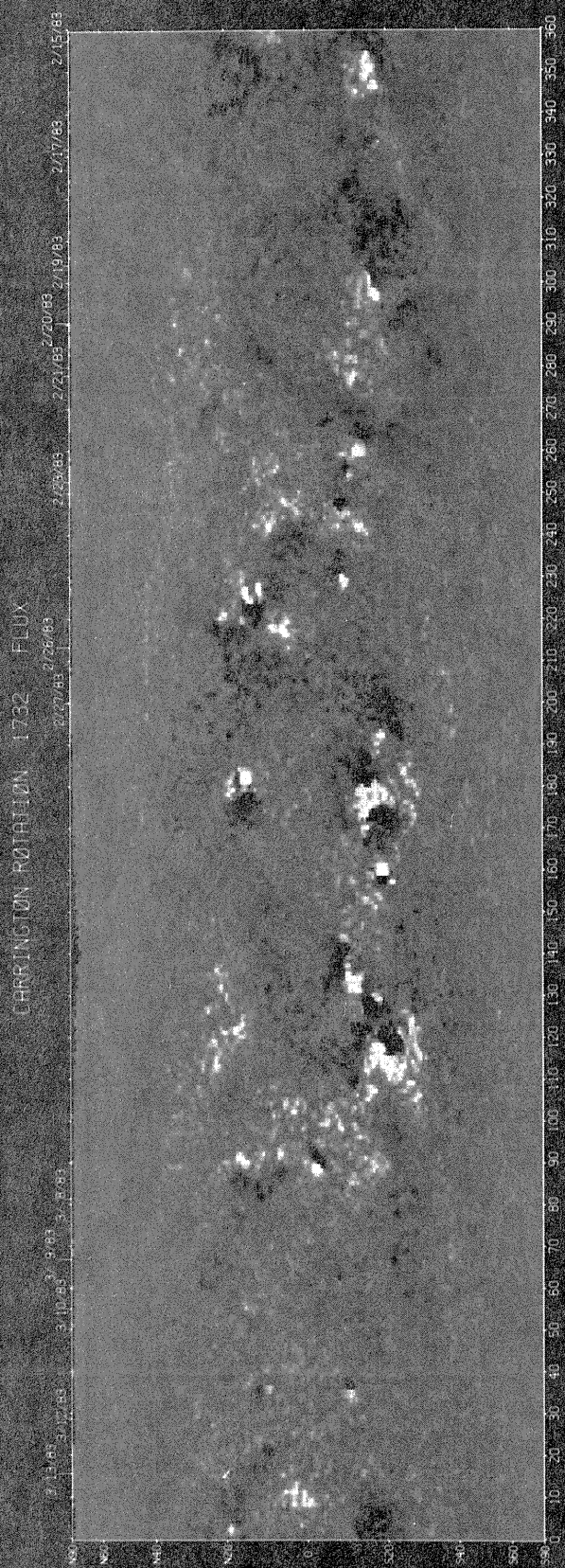
CARRINGTON ROTATION 1732 (PRELIMINARY)



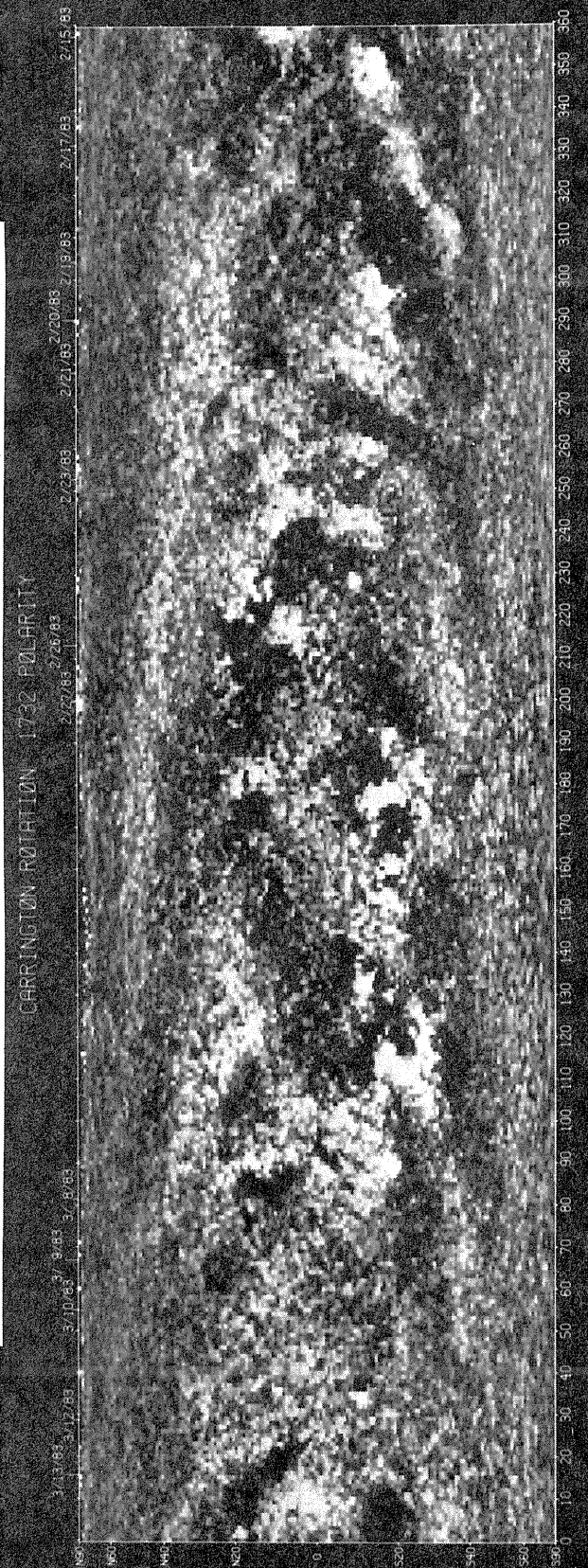
SOLAR MAGNETIC FIELD SYNOPTIC CHART
 CARRINGTON ROTATION 1732

Stanford Solar Observatory

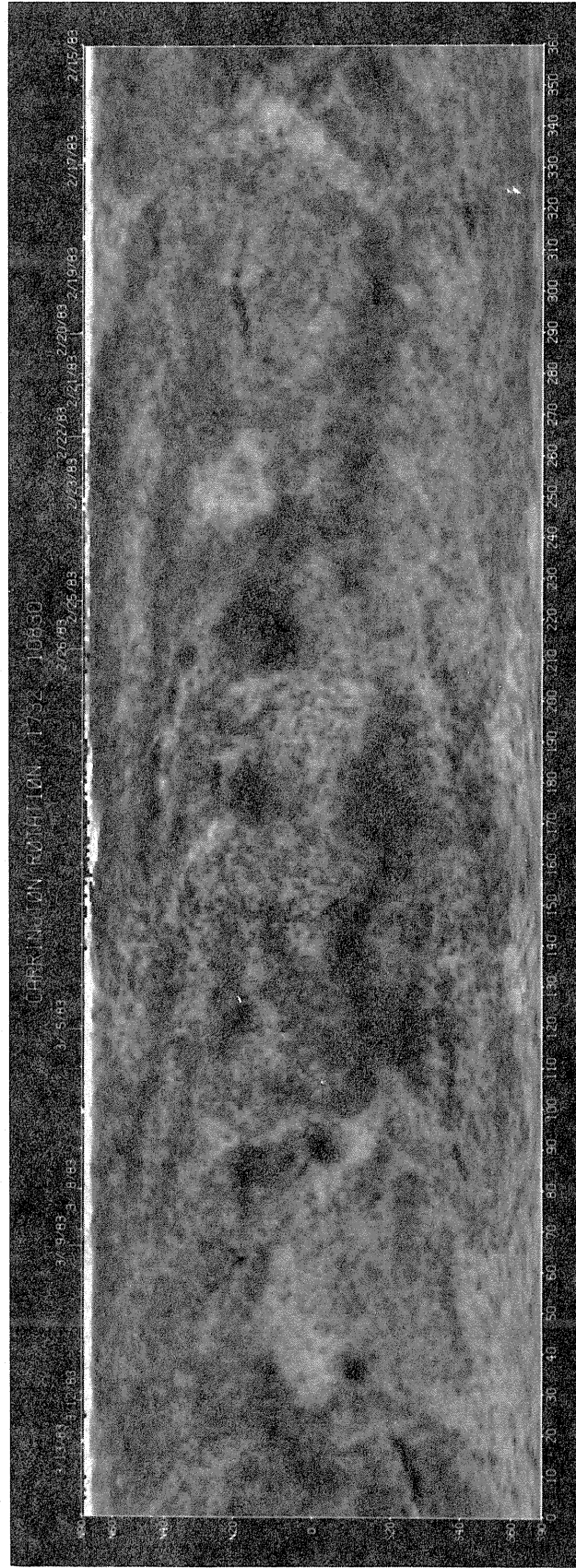




KPNO SOLAR MAGNETIC FIELD SYNOPSIS CHART

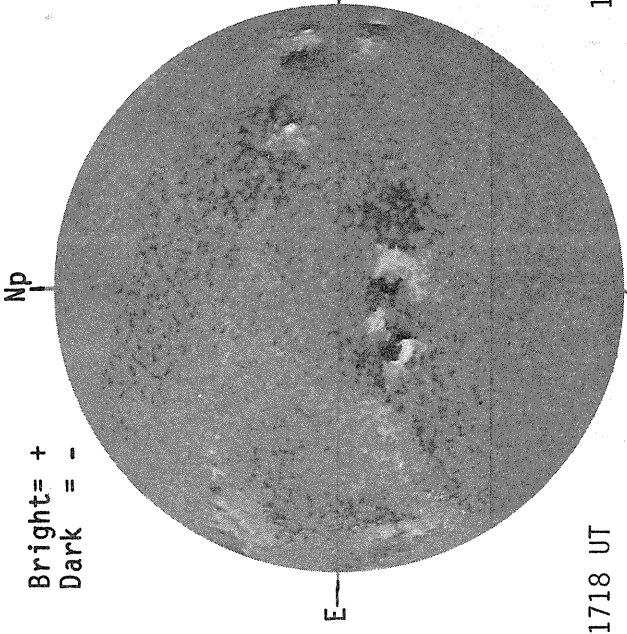


HELIUM 10830Å SYNOPTIC MAPS
CARRINGTON ROTATION 1732
KITTE PEAK NATIONAL OBSERVATORY



F E B R U A R Y 01, 1 9 8 3 (P=-11.98, B₀=-6.01, L₀= 191.13)

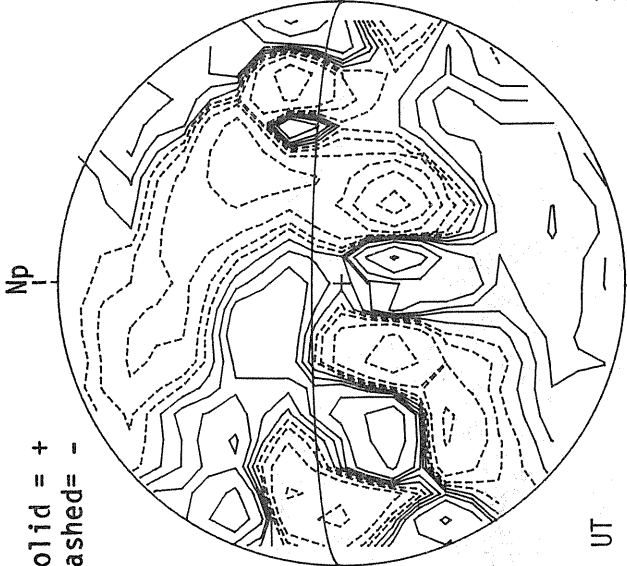
KITT PEAK MAGNETOGRAM



Bright= +
Dark = -

1718 UT

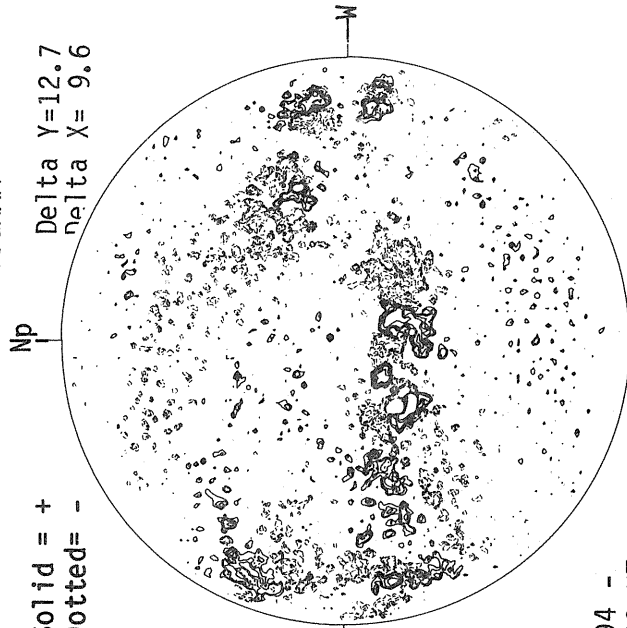
STANFORD MAGNETOGRAM



Solid = +
Dashed = -

1834 UT

MT. WILSON MAGNETOGRAM

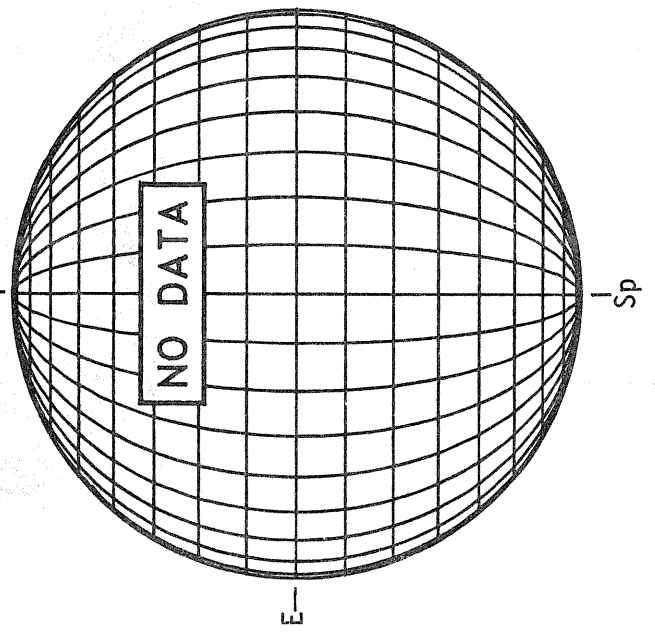


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Dotted = -

Delta Y=12.7
Delta X= 9.6

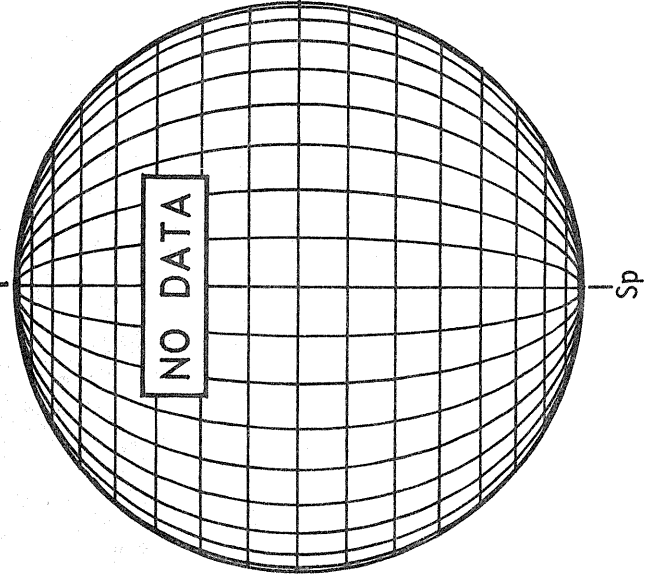
16.94 -
17.89 UT

SACRAMENTO PEAK H-ALPHA



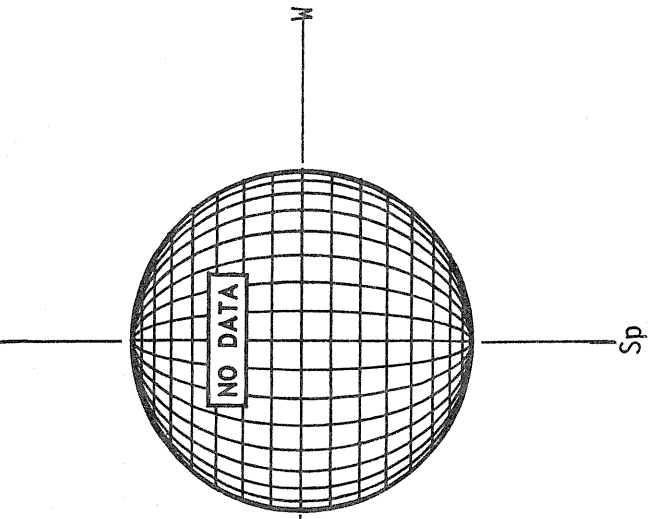
NO DATA

BOULDER SUNSPOTS



NO DATA

SACRAMENTO PEAK CORONA (5303 Angstrom)



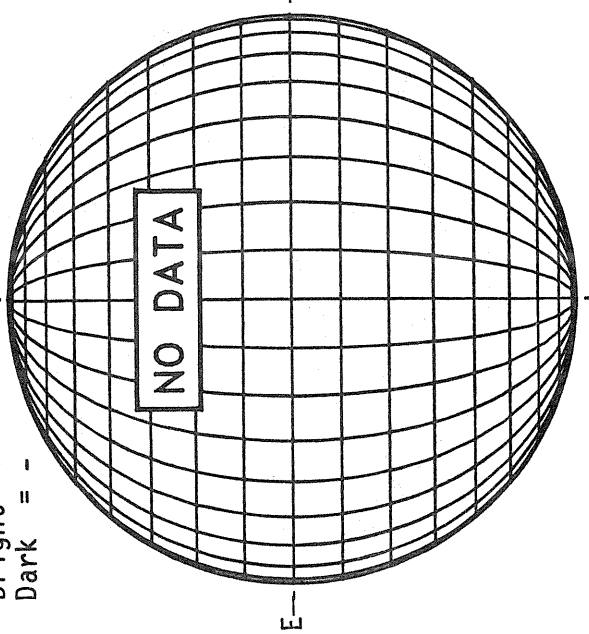
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KITT PEAK MAGNETOGRAM

Np

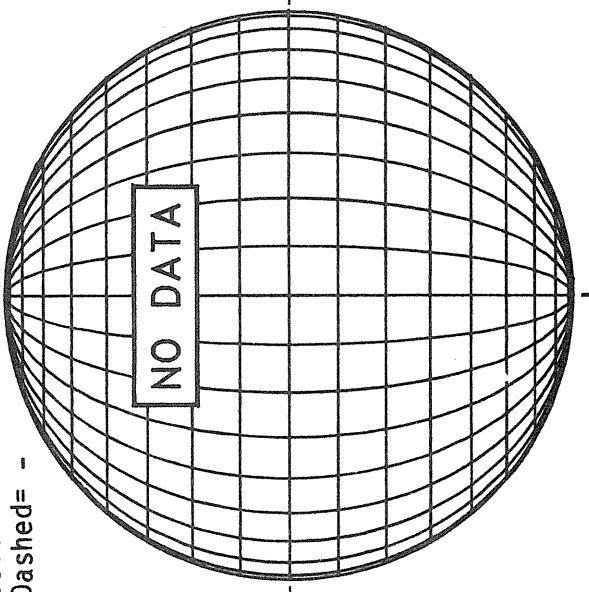
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Dark = -



STANFORD MAGNETOGRAM

Np

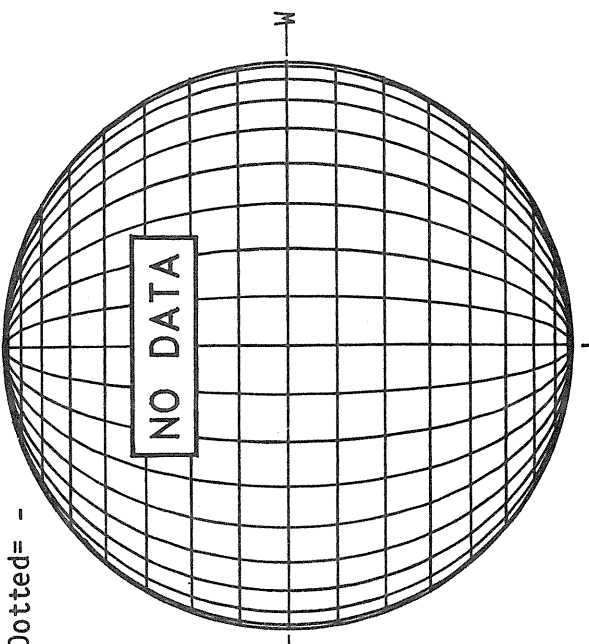
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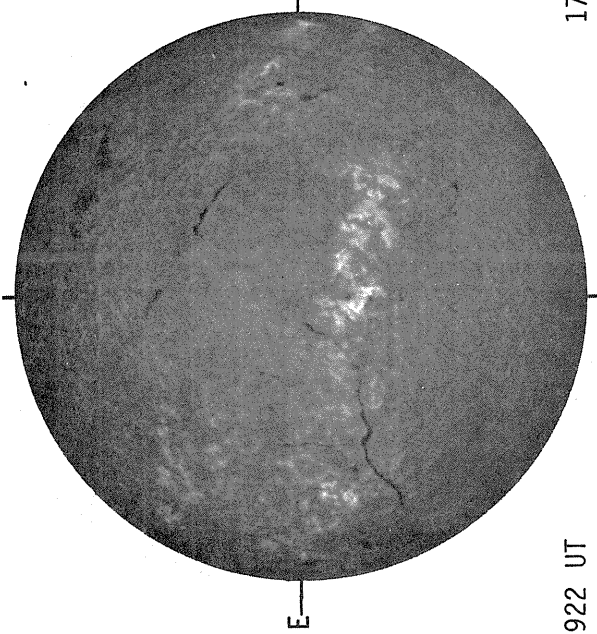
MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted = -

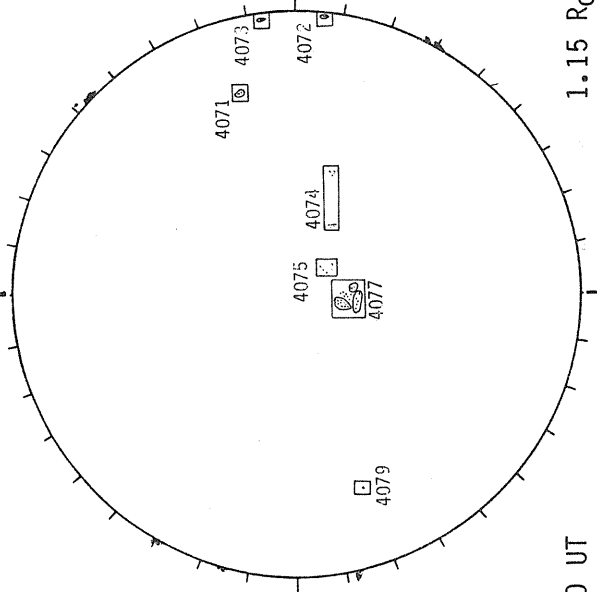


SACRAMENTO PEAK H-ALPHA



1922 UT

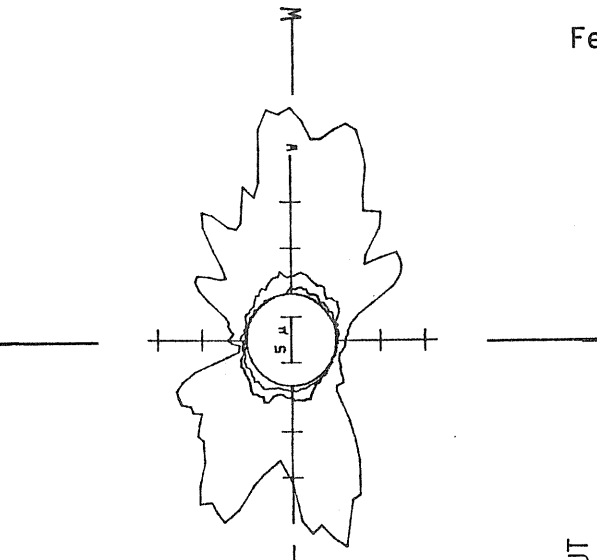
BOULDER SUNSPOTS



1700 UT

1720 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R₀

2002 UT

1.35 R₀

2008 UT

1.55 R₀

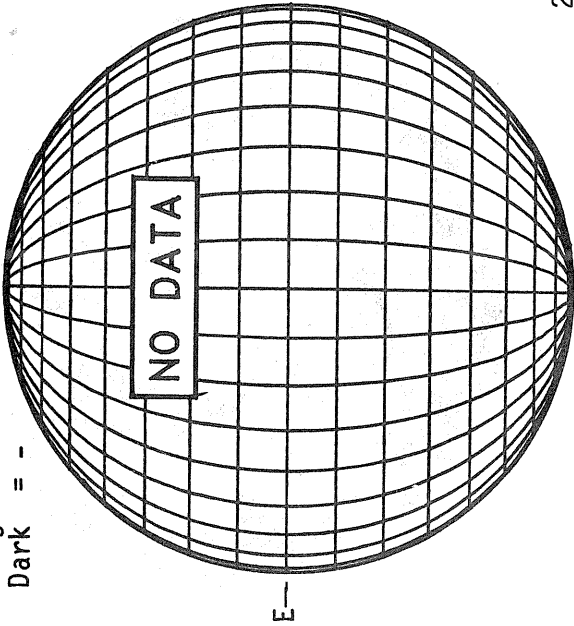
2014 UT

F E B R U A R Y 03, 1 9 8 3 (P=-12.79, B₀=-6.15, L₀= 164.79)

KITT PEAK MAGNETOGRAM

Np

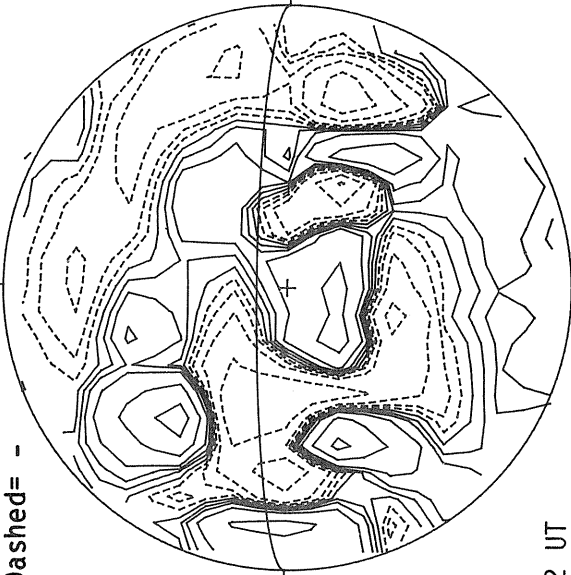
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STANFORD MAGNETOGRAM

Np

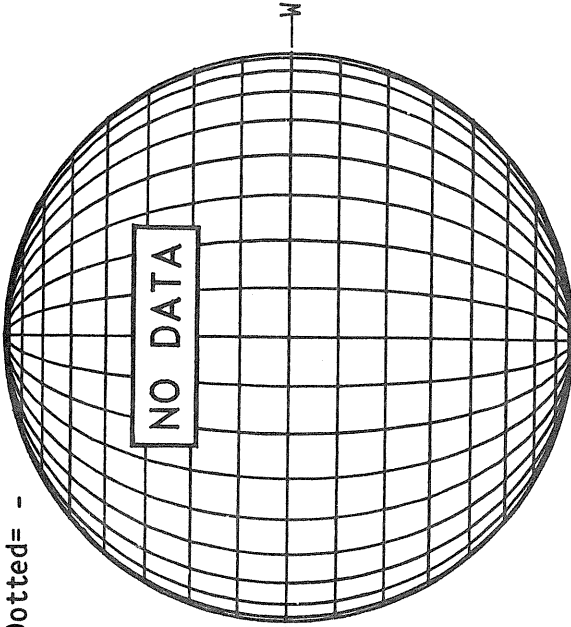
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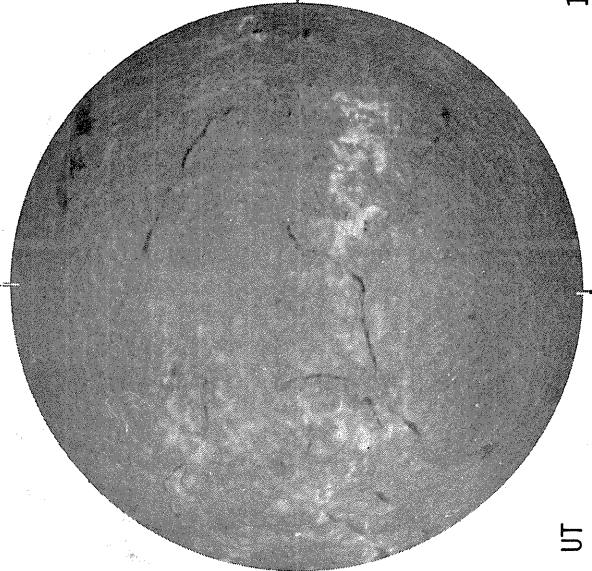
MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted = -



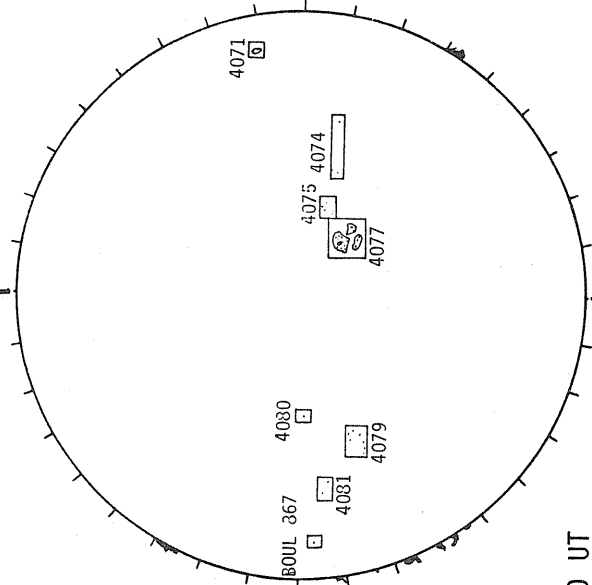
BOULDER H-ALPHA



2020 UT

Sp

BOULDER SUNSPOTS

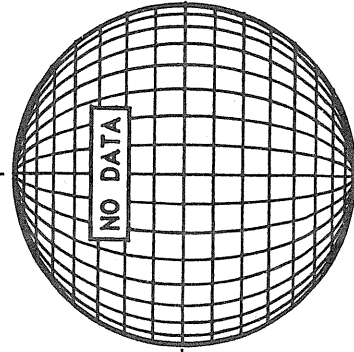


1610 UT

2020 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



1610 UT

2020 UT BOUL Prom

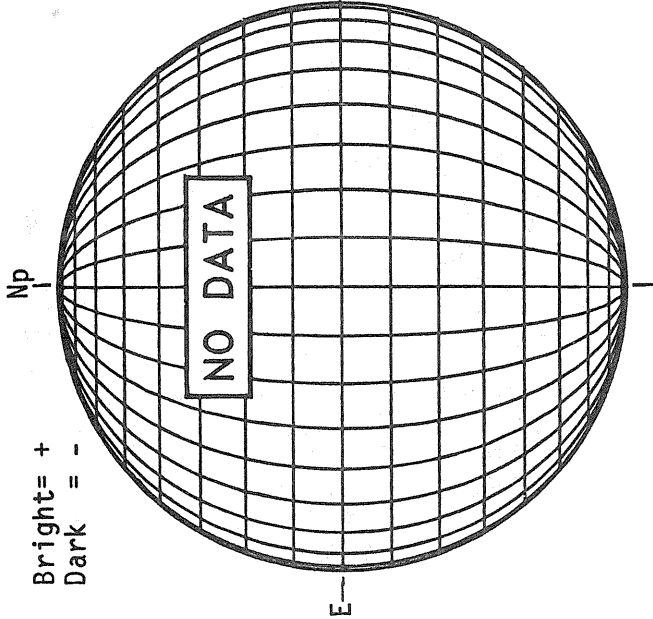
Sp

2212 UT

2020 UT

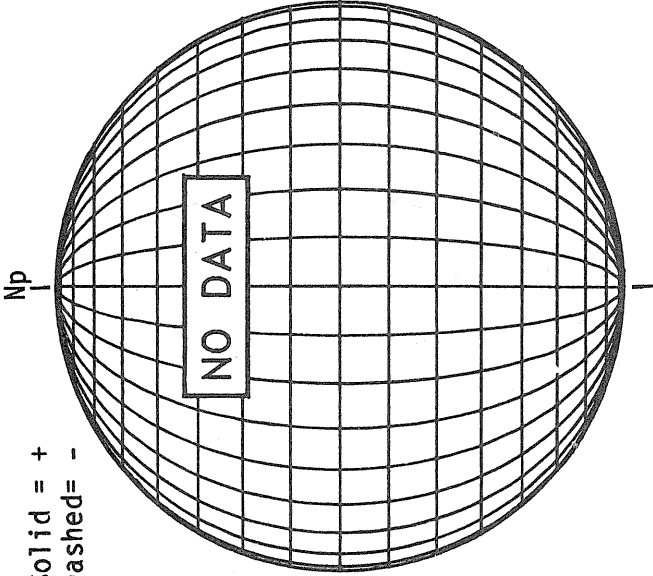
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KITT PEAK MAGNETOGRAM



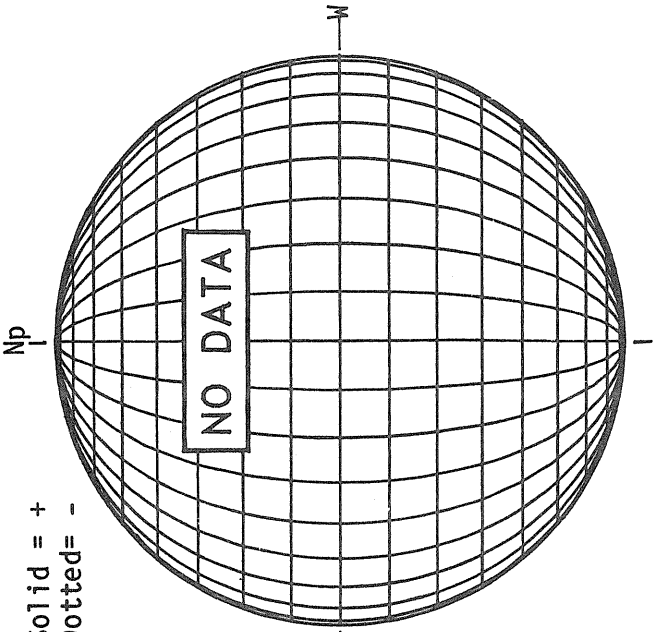
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Dark = -

STANFORD MAGNETOGRAM



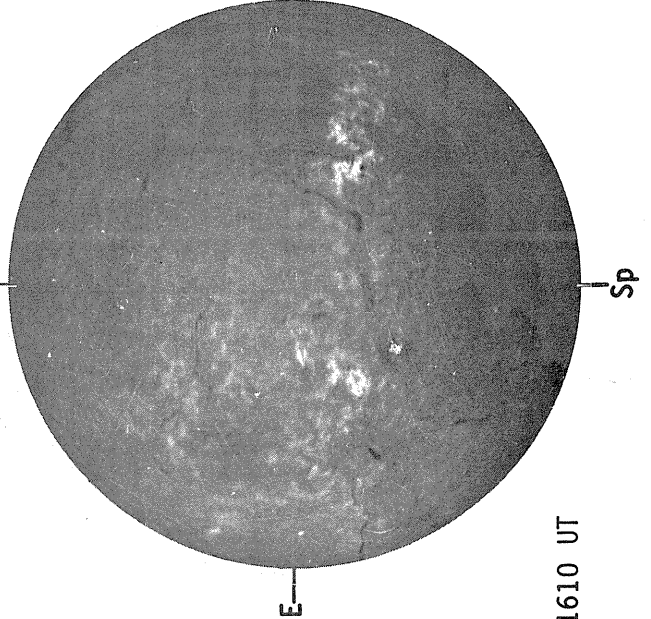
Solid = +
Dashed = -

MT. WILSON MAGNETOGRAM



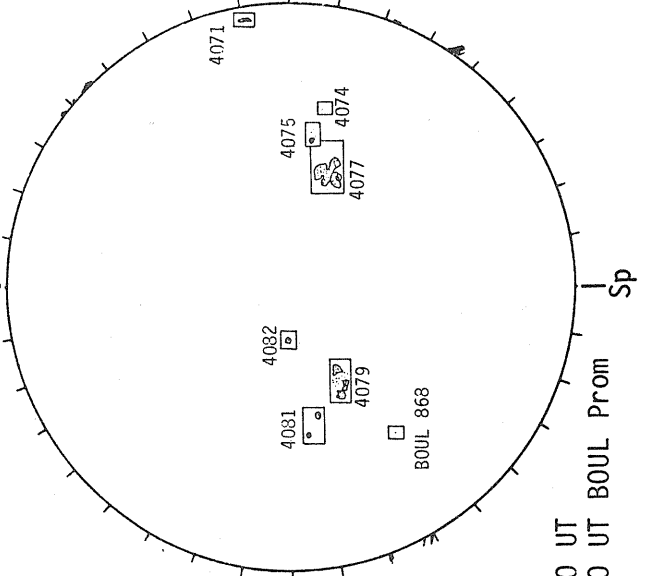
Solid = +
Dotted = -

BOULDER H-ALPHA



1610 UT

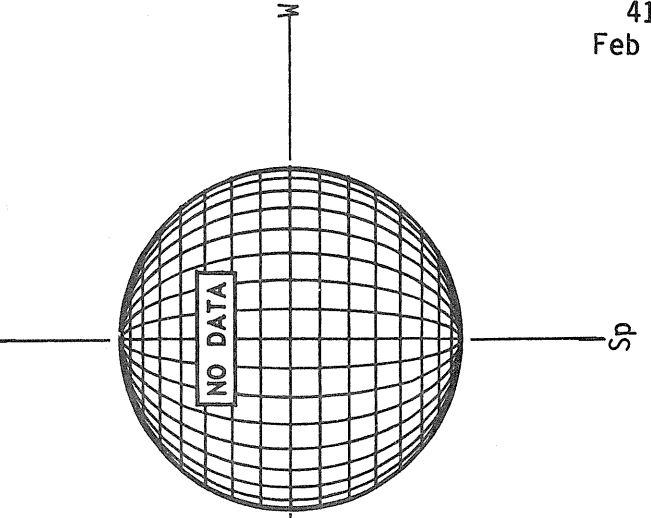
BOULDER SUNSPOTS



1630 UT

1610 UT BOUL Prom

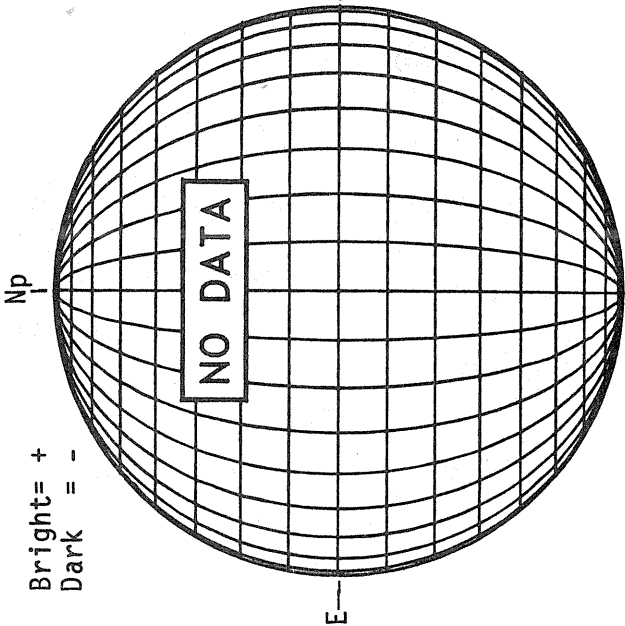
SACRAMENTO PEAK CORONA (5303 Angstrom)



Sp

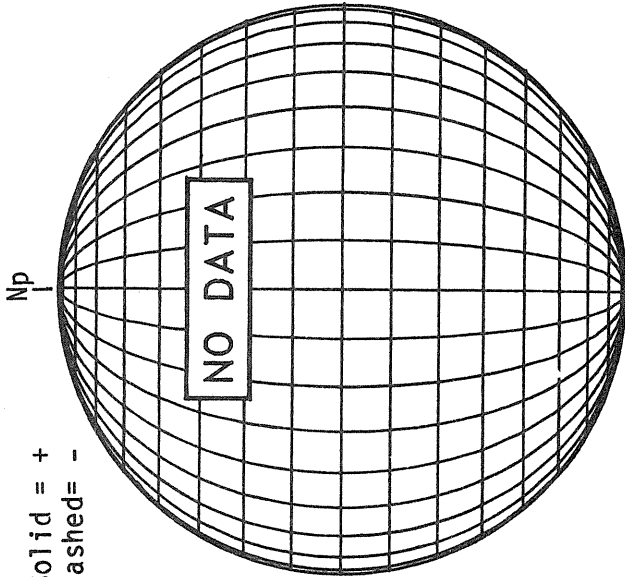
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KITT PEAK MAGNETOGRAM



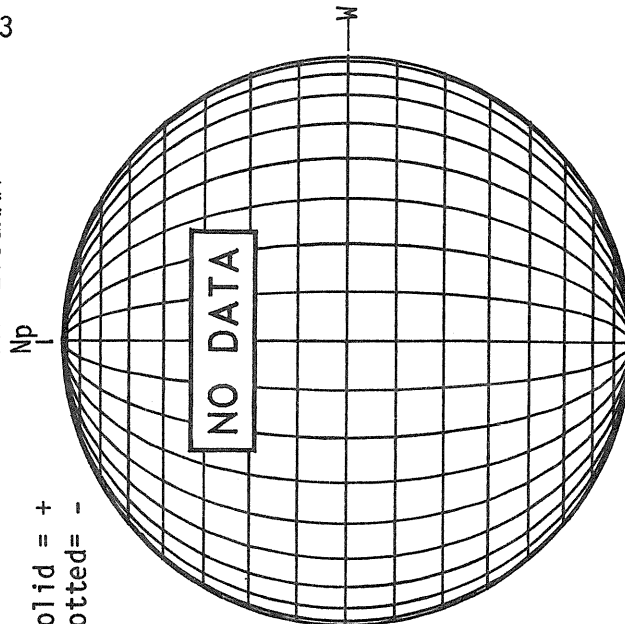
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Dark = -

STANFORD MAGNETOGRAM



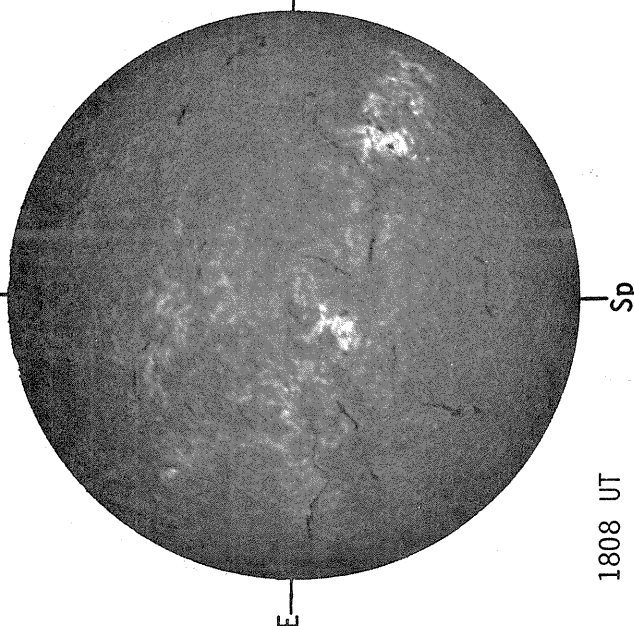
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MT. WILSON MAGNETOGRAM

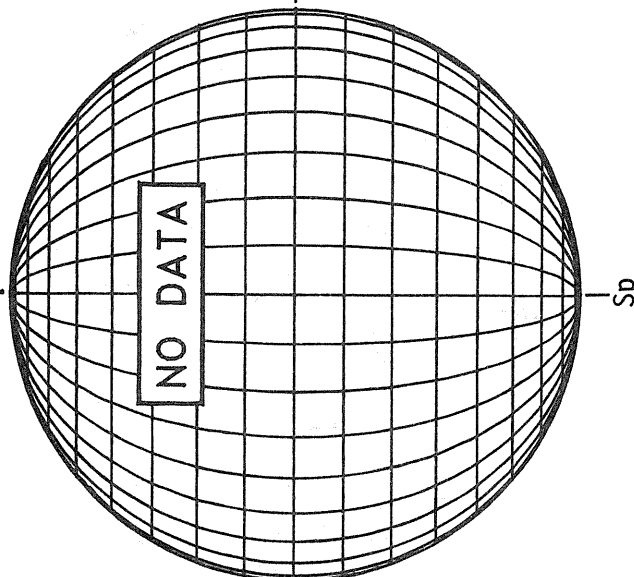


Solid = +
Dotted = -

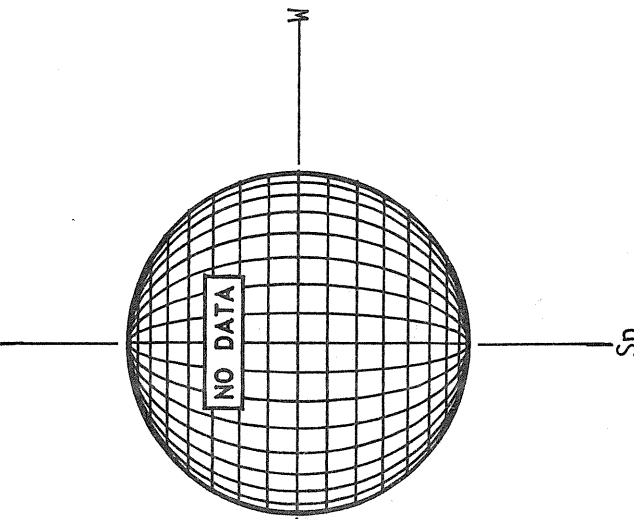
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

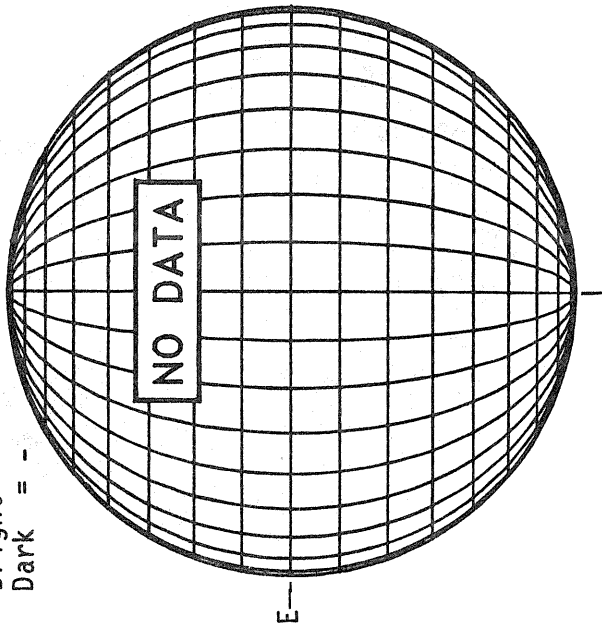


F E B R U A R Y 06, 1 9 8 3 (P=-13.97, B₀=-6.34, L₀= 125.29)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

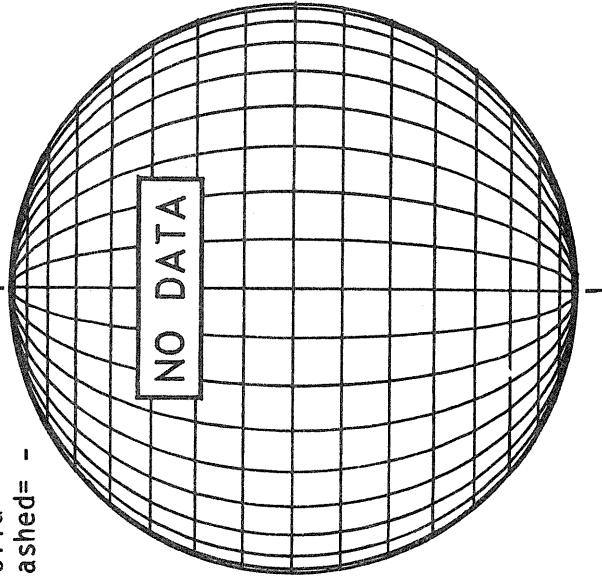
Np



STANFORD MAGNETOGRAM

Solid = +
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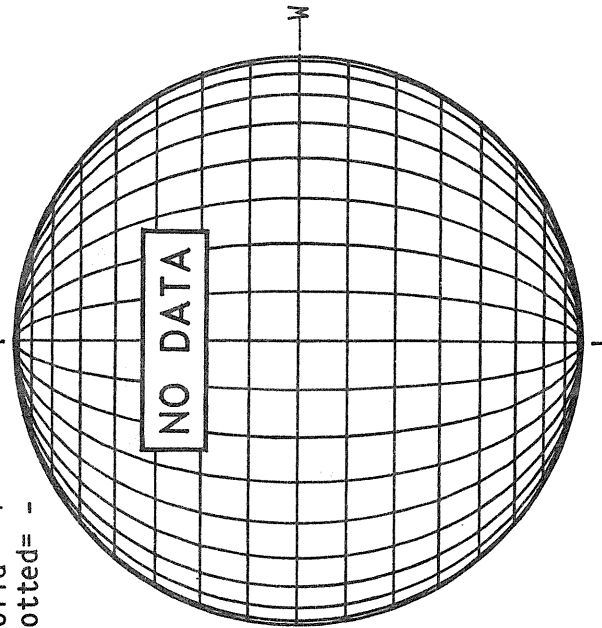
Np



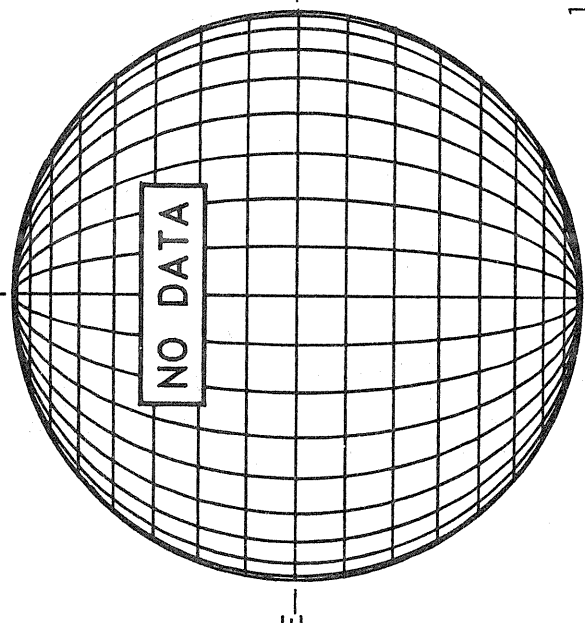
MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted = -

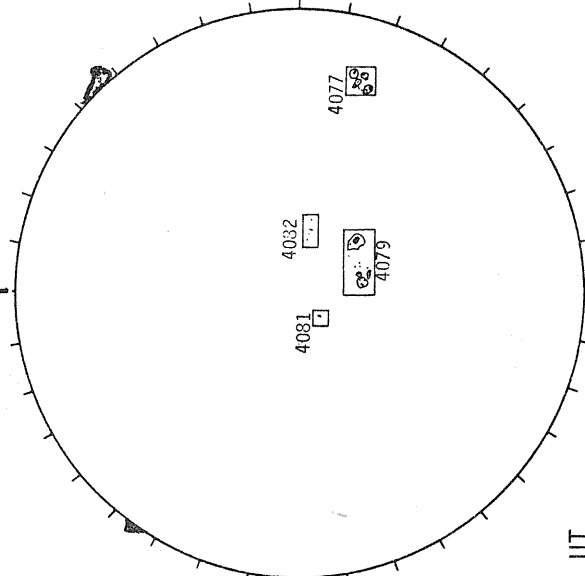


SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (5303 Angstrom)



1700 UT

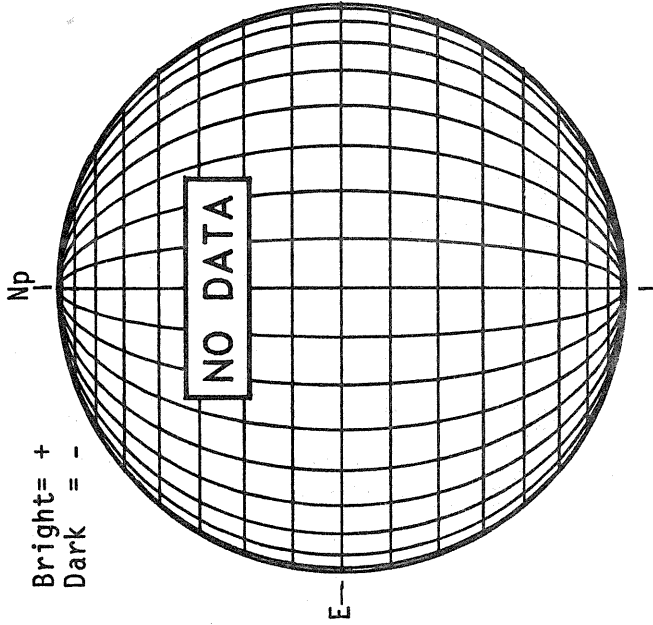
1715 UT BOUL Prom

Sp

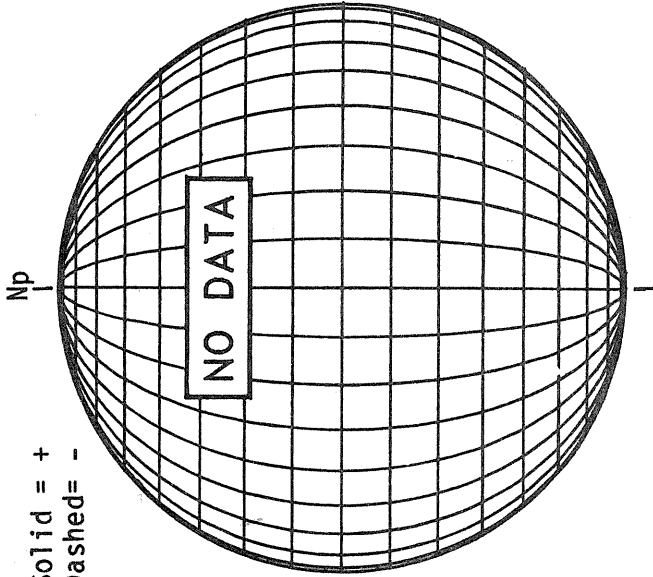
Sp

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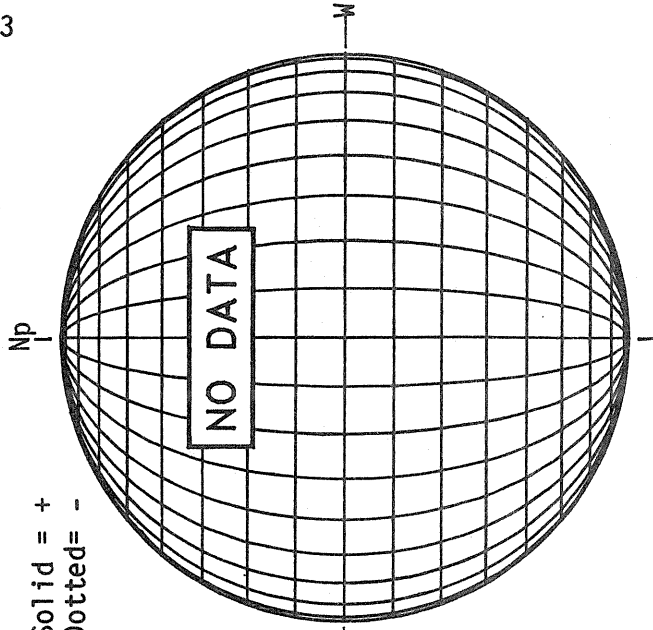
KITT PEAK MAGNETOGRAM



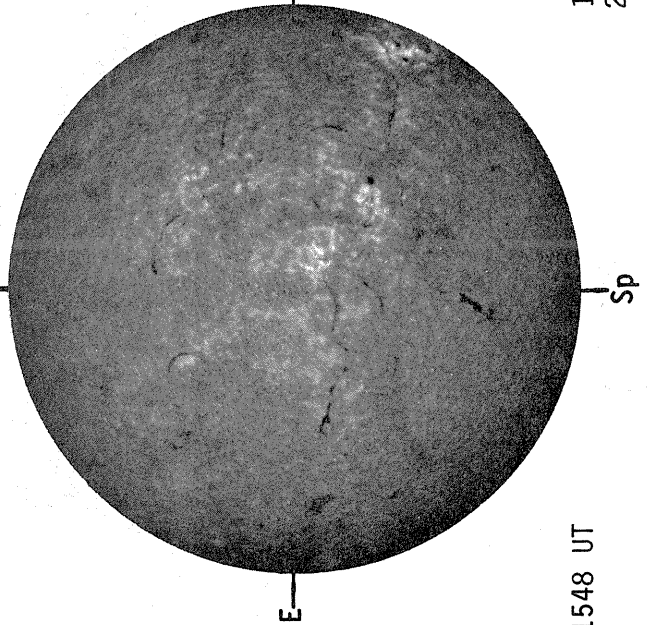
STANFORD MAGNETOGRAM



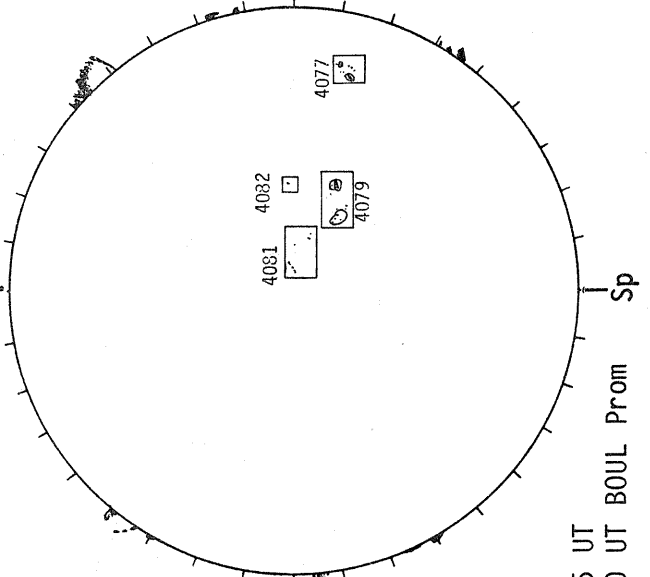
MT. WILSON MAGNETOGRAM



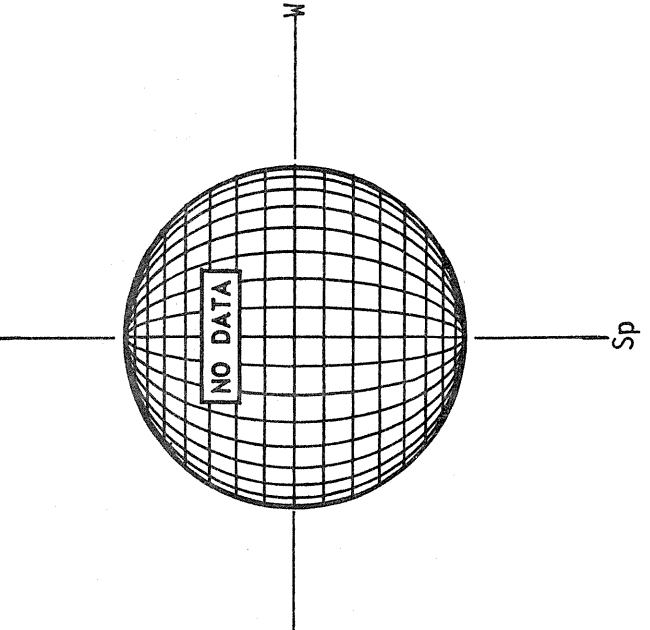
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

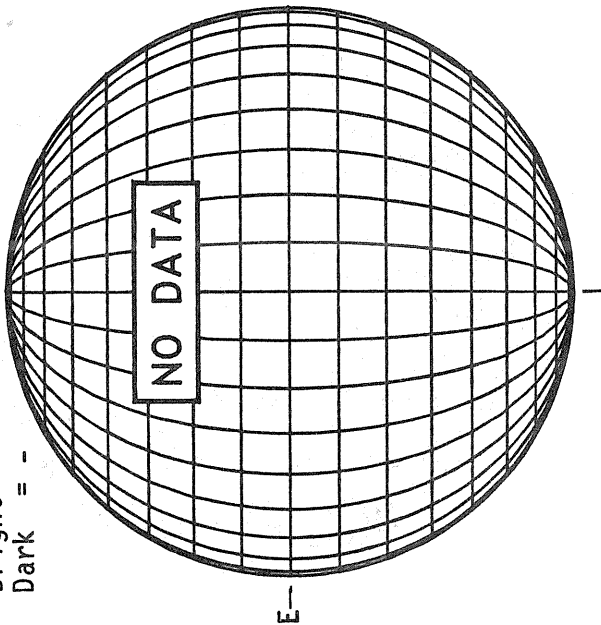


F E B R U A R Y 08, 1 9 8 3 (P=-14.74, B₀=-6.46, L₀= 98.96)

KITT PEAK MAGNETOGRAM

Np

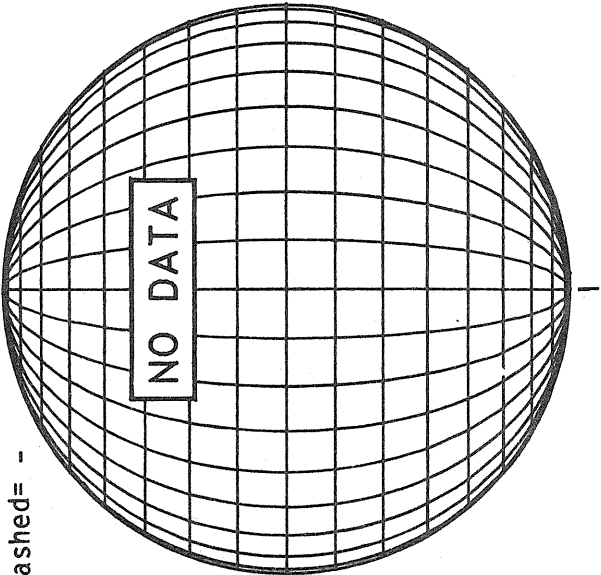
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STANFORD MAGNETOGRAM

Np

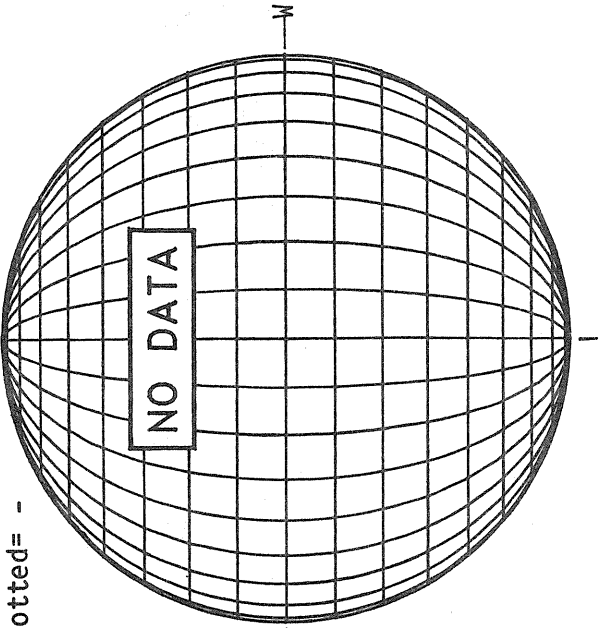
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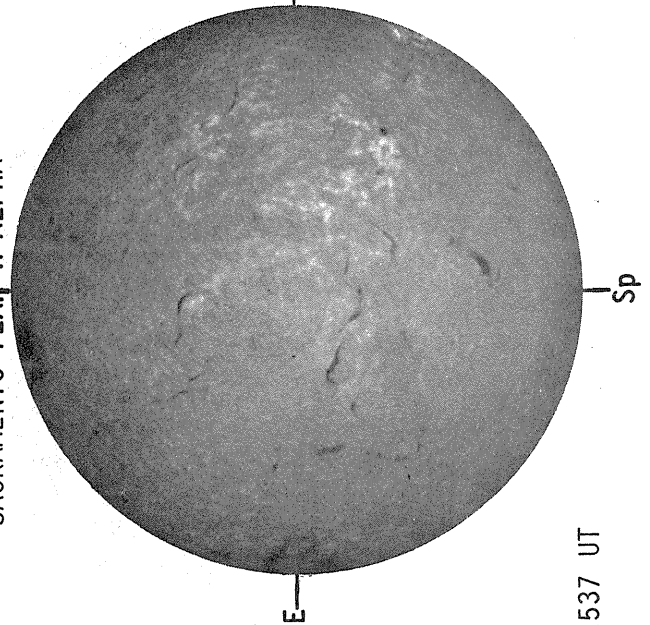
MT. WILSON MAGNETOGRAM

Np

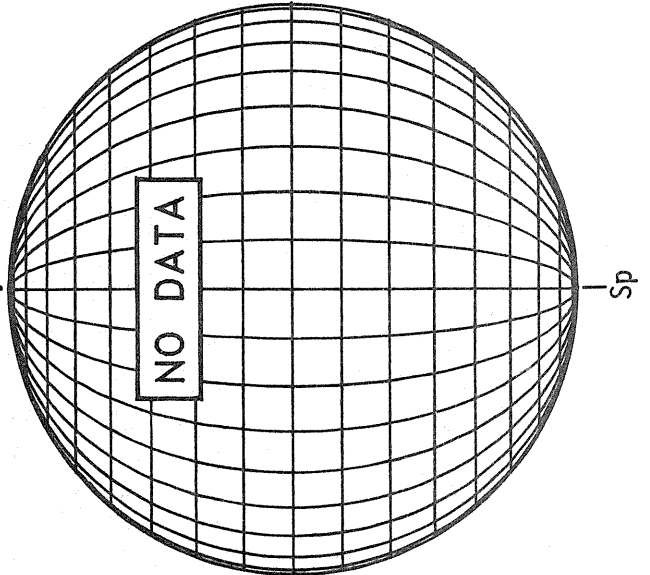
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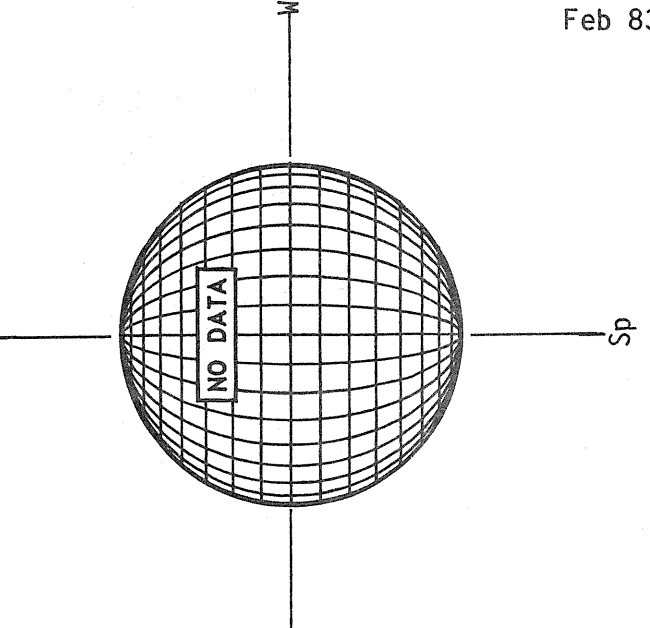
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



1537 UT

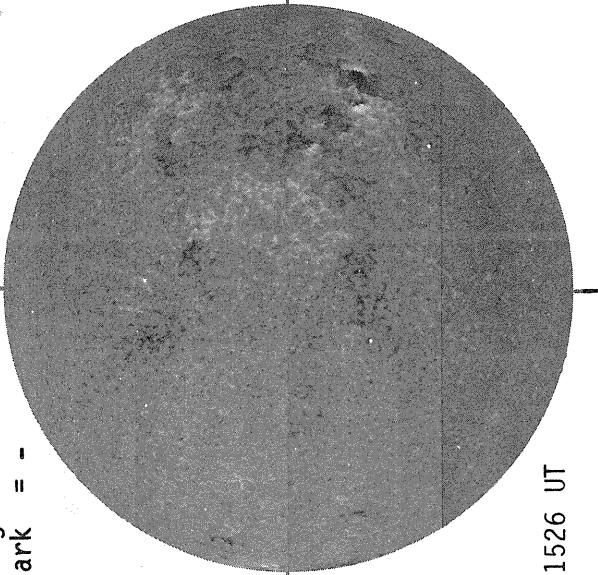
46
Feb 83

F E B R U A R Y 09, 1 9 8 3 (P=-15.11, B₀=-6.52, L₀= 85.79)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

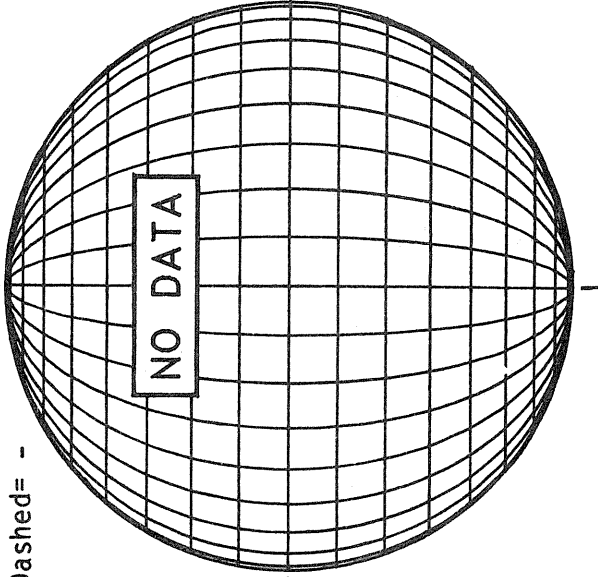


1526 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

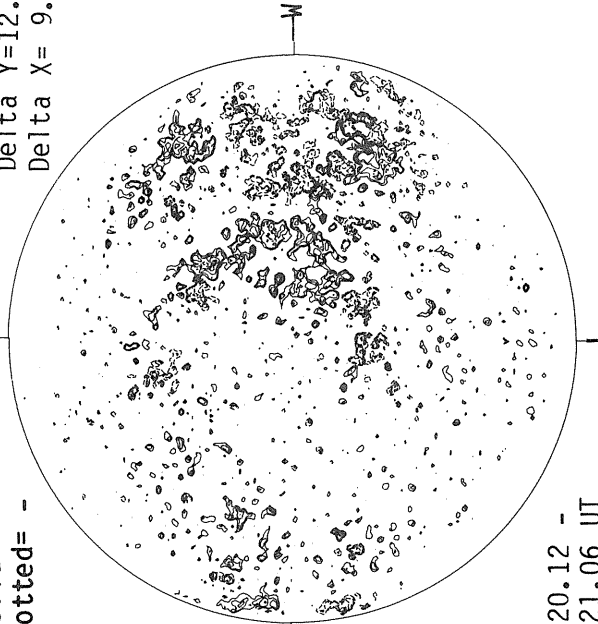


20.12 -
21.06 UT

MT. WILSON MAGNETOGRAM

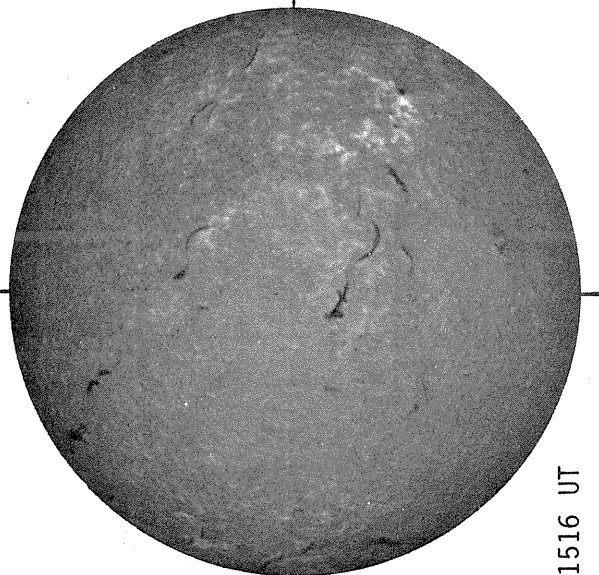
Solid = +
Dotted = -

Np



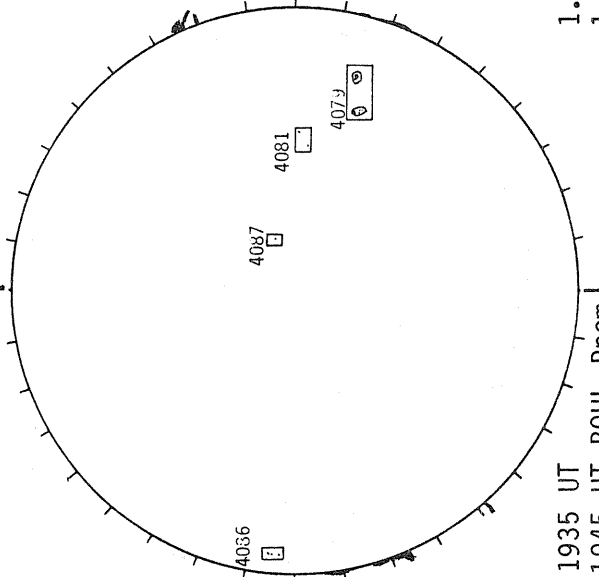
Delta Y=12.7
Delta X= 9.7

SACRAMENTO PEAK H-ALPHA



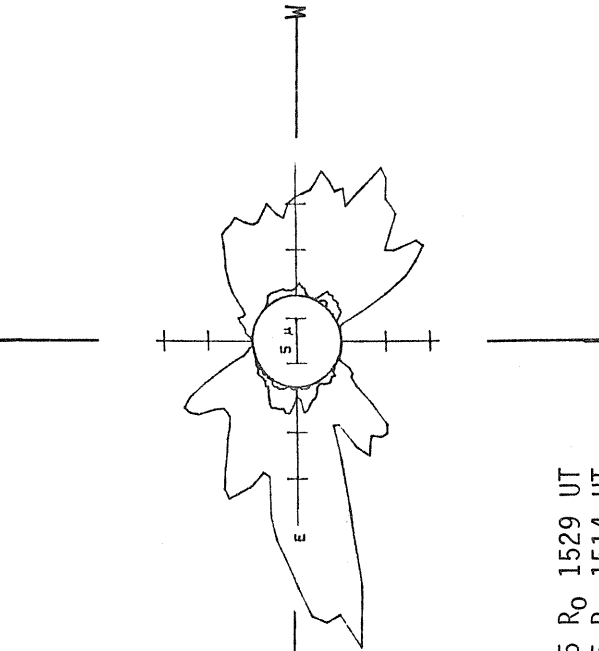
1516 UT

BOULDER SUNSPOTS



1935 UT
1945 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



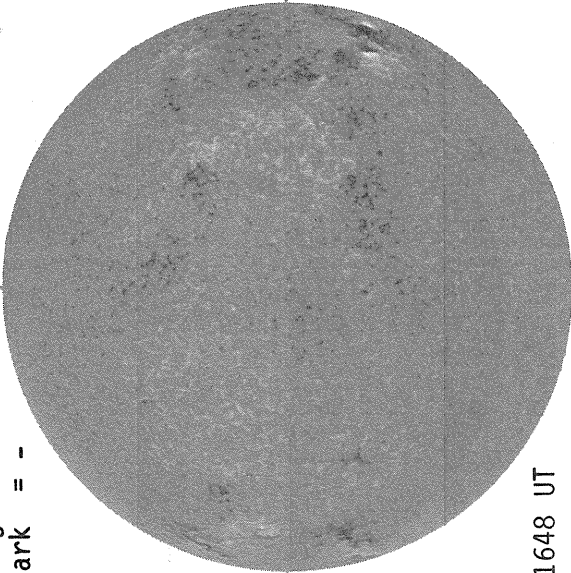
1.15 R₀ 1529 UT
1.35 R₀ 1514 UT
1.55 R₀ 1521 UT

F E B R U A R Y 10, 1 9 8 3 (P=-15.48, B₀=-6.58, L₀= 72.63)

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -

Np

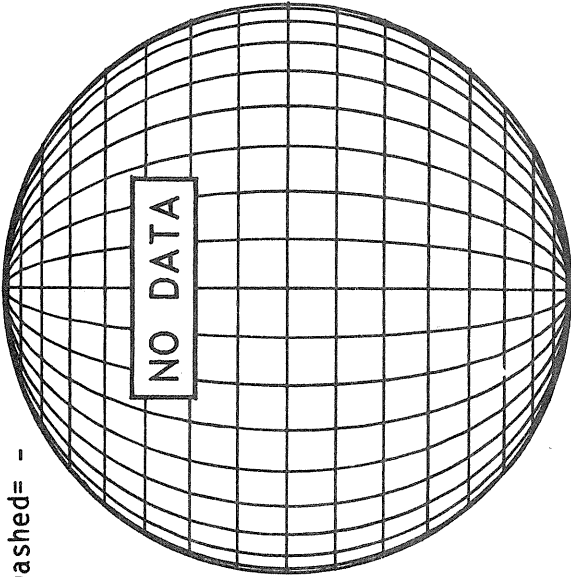


1648 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

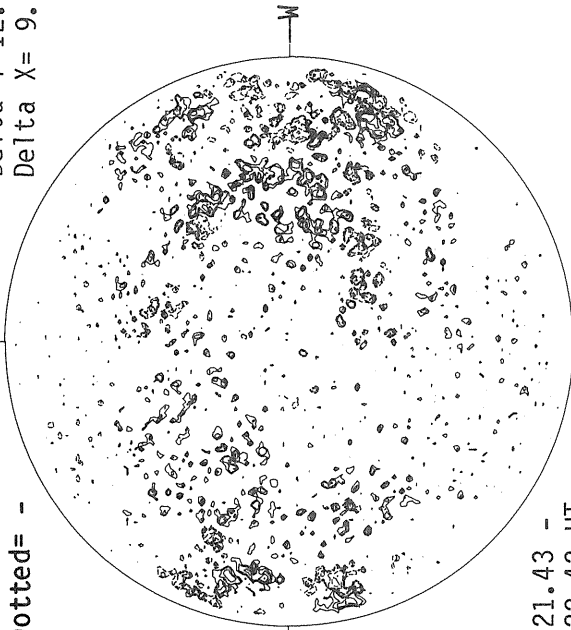


NO DATA

MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

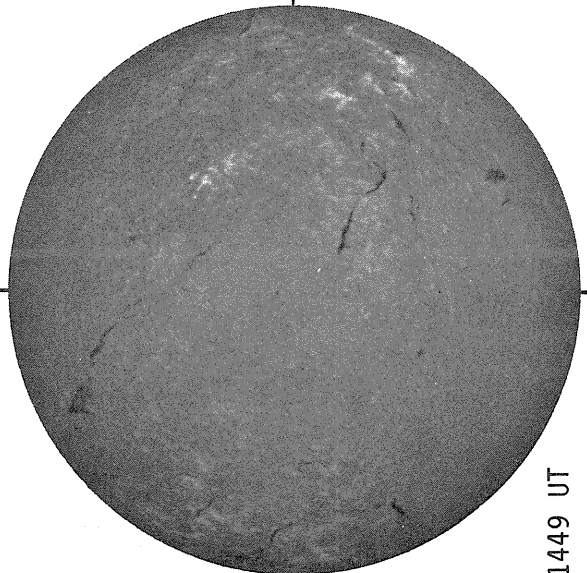
Np



Delta Y = 12.7
Delta X = 9.6

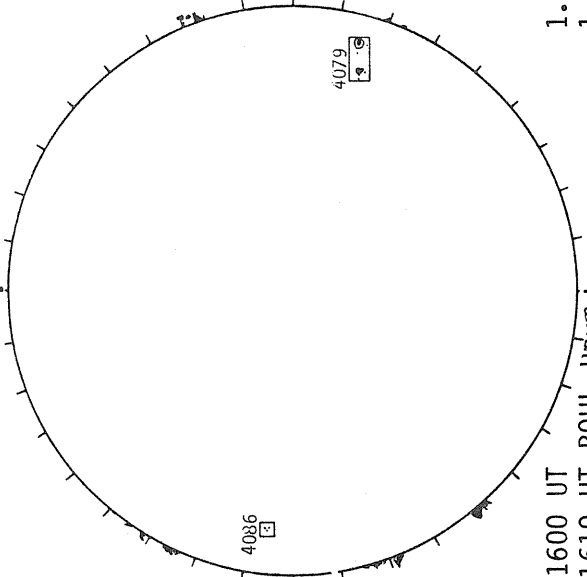
21.43 -
22.42 UT

SACRAMENTO PEAK H-ALPHA



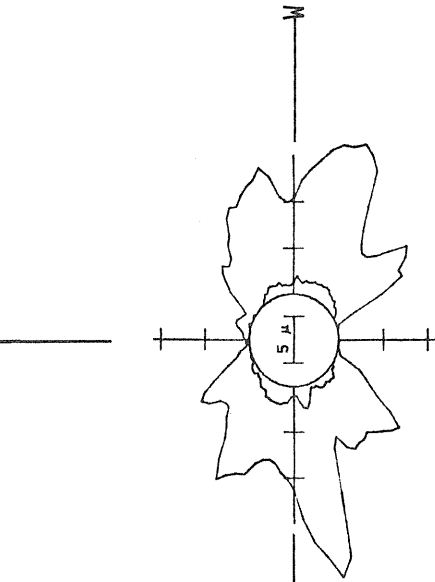
1449 UT

BOULDER SUNSPOTS



1600 UT
1610 UT BOUL Prom

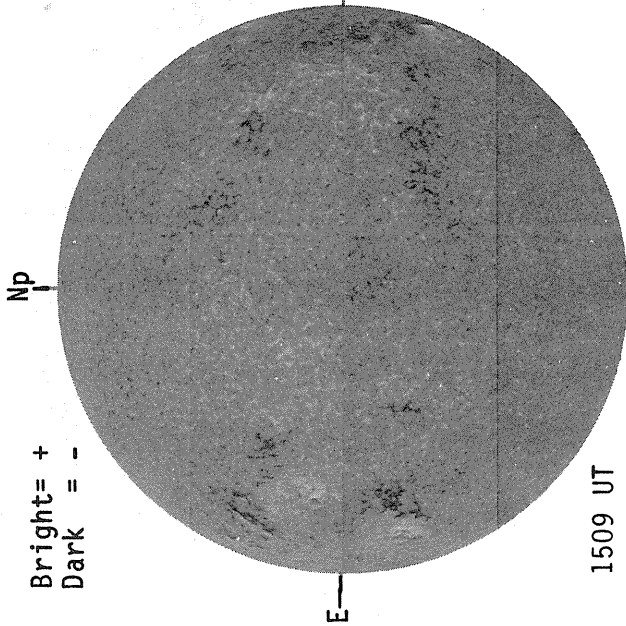
SACRAMENTO PEAK CORONA (5303 Angstrom)



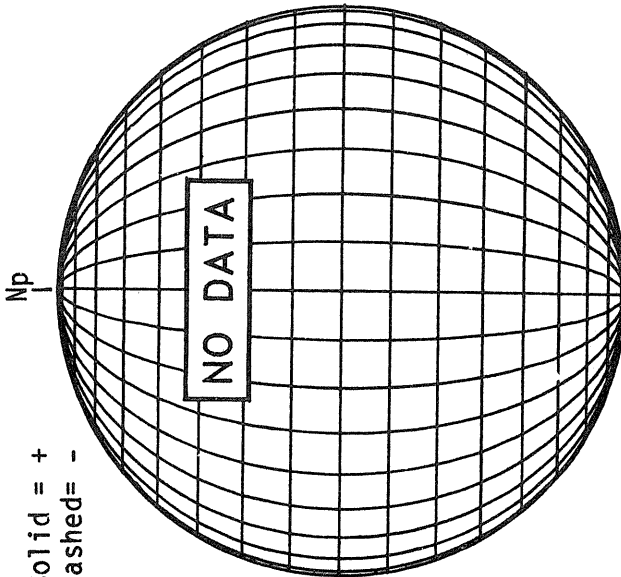
1.15 R₀ 1617 UT
1.35 R₀ 1623 UT

F E B R U A R Y 11, 1 9 8 3 (P=-15.85, B₀=-6.63, L₀= 59.46)

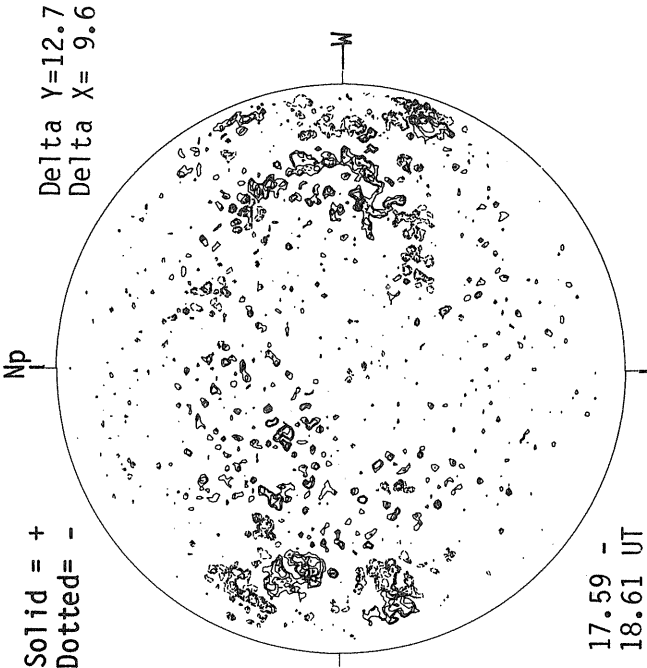
KITT PEAK MAGNETOGRAM



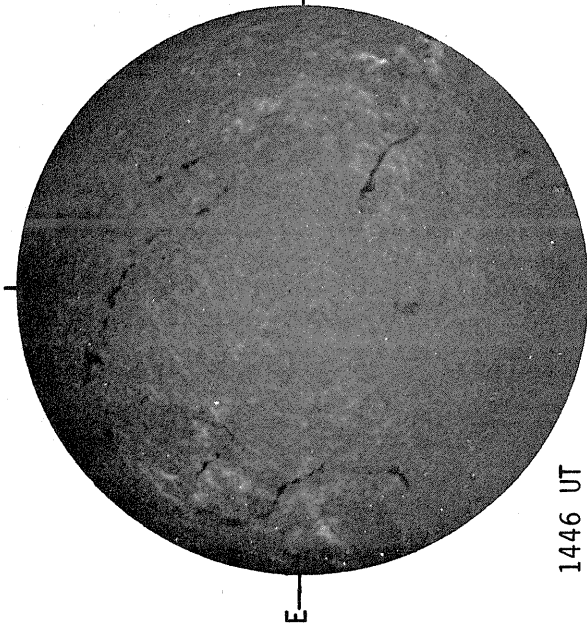
STANFORD MAGNETOGRAM



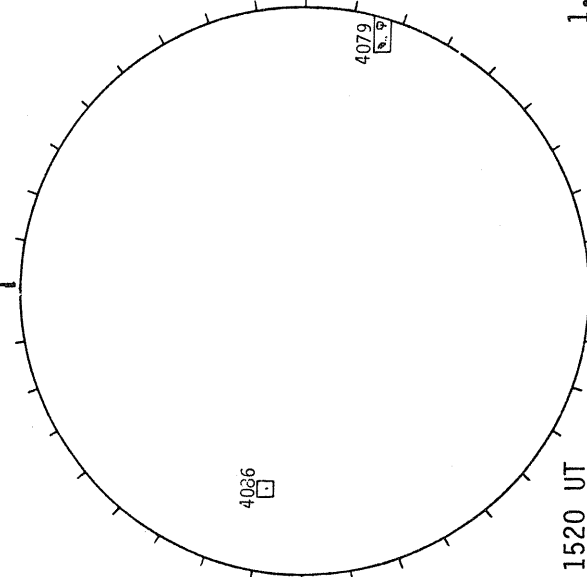
MT. WILSON MAGNETOGRAM



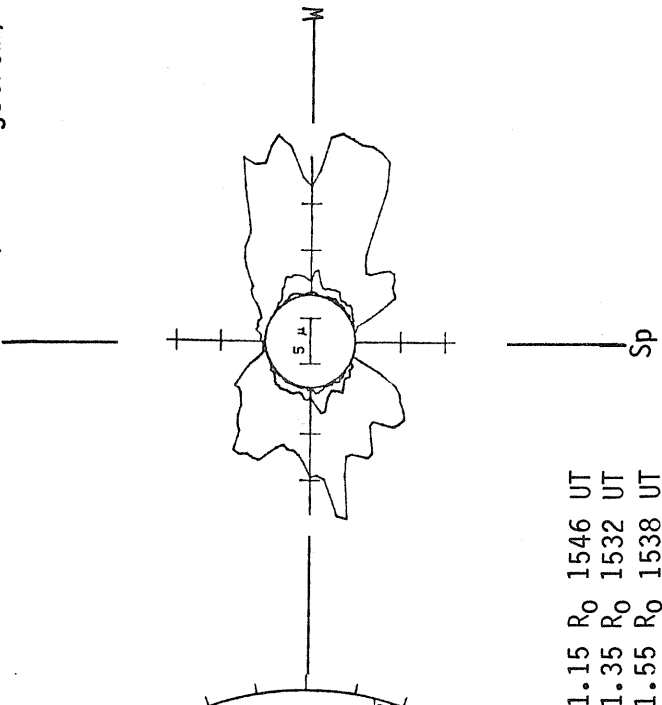
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

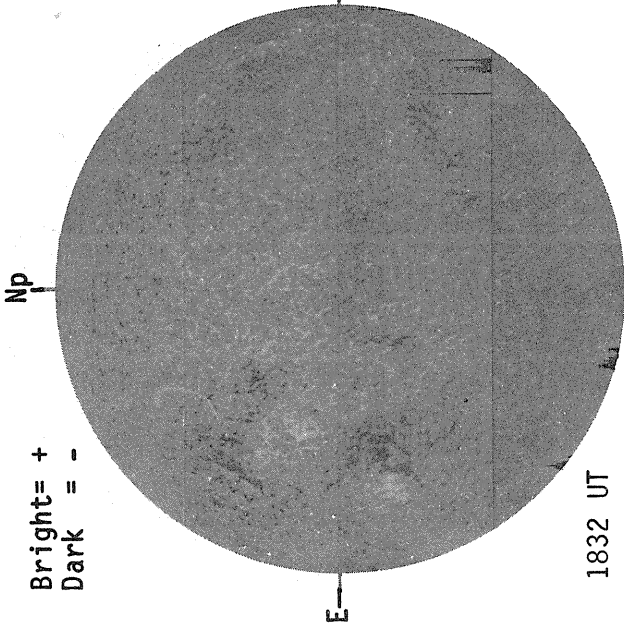


SACRAMENTO PEAK CORONA (5303 Angstrom)



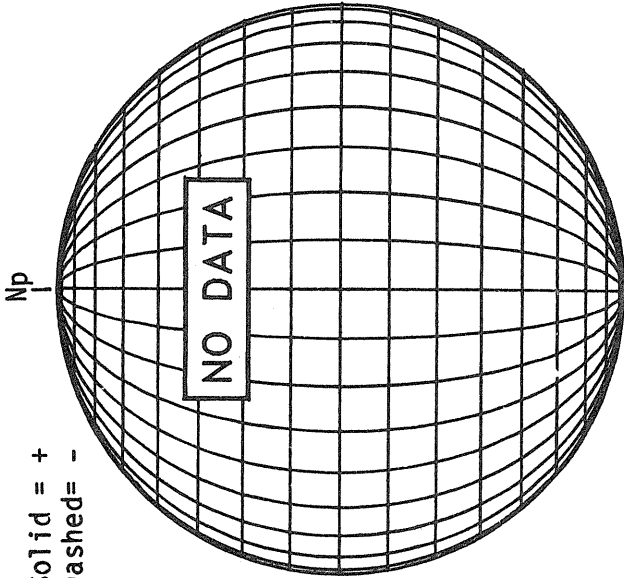
F E B R U A R Y 12, 1 9 8 3 (P=-16.20, B₀=-6.68, L₀= 46.29)

KITT PEAK MAGNETOGRAM



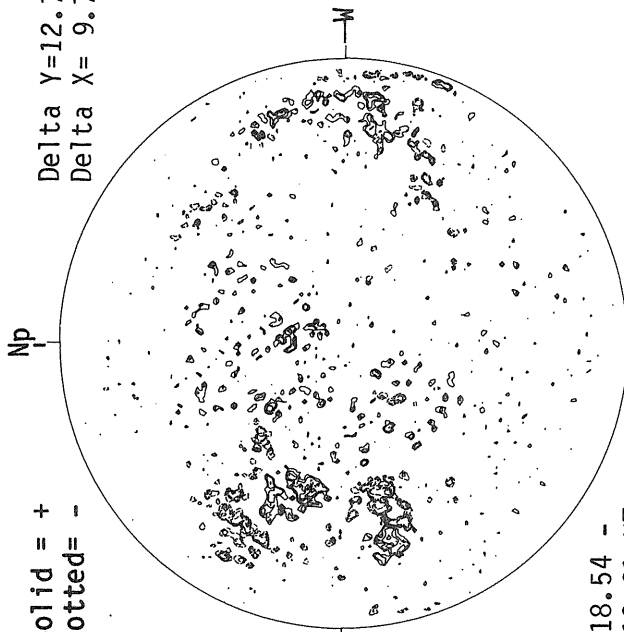
Bright = +
Dark = -

STANFORD MAGNETOGRAM



Solid = +
Dashed = -

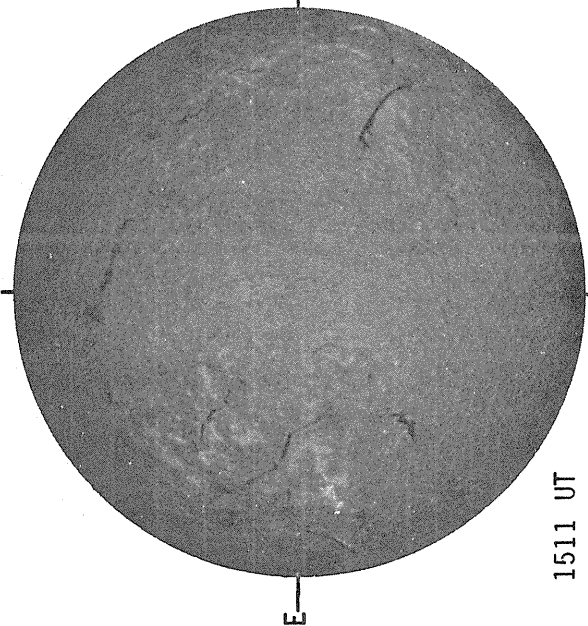
MT. WILSON MAGNETOGRAM



Solid = +
Dotted = -

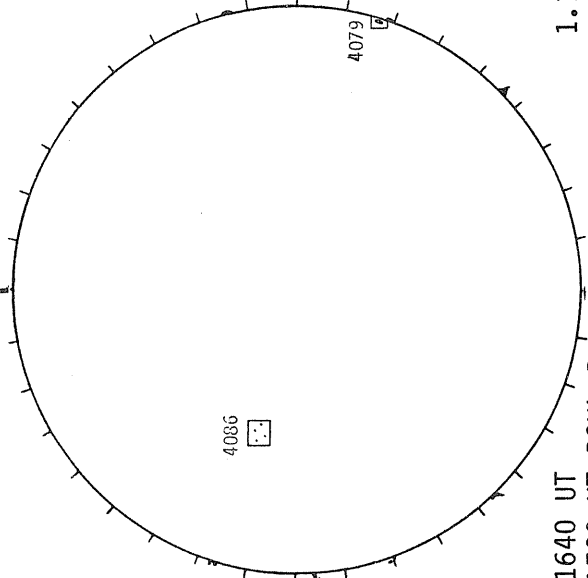
Delta Y = 12.7
Delta X = 9.7

SACRAMENTO PEAK H-ALPHA



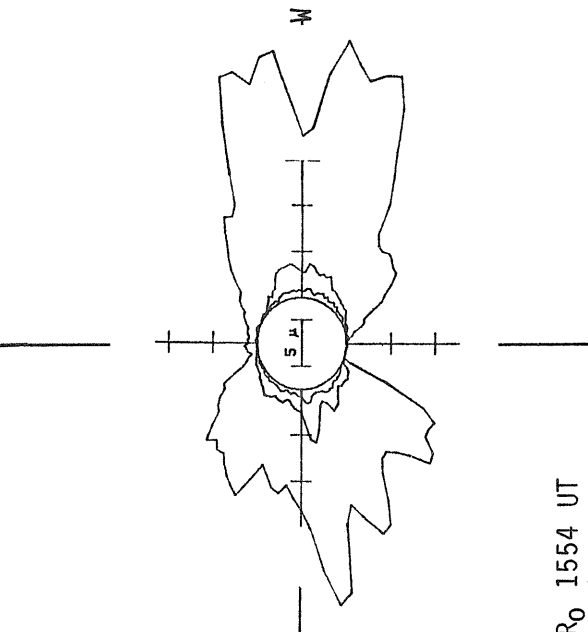
1511 UT

BOULDER SUNSPOTS



1640 UT
1700 UT BOUL Prom | Sp

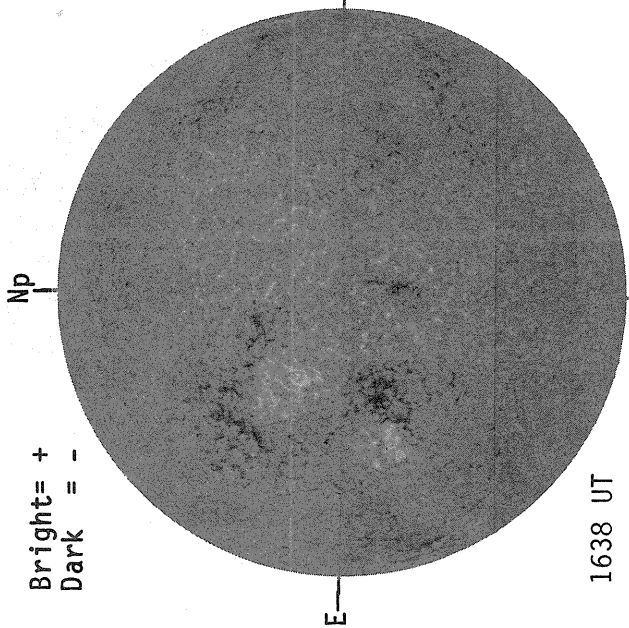
SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R₀ 1554 UT
1.35 R₀ 1539 UT
1.55 R₀ 1546 UT

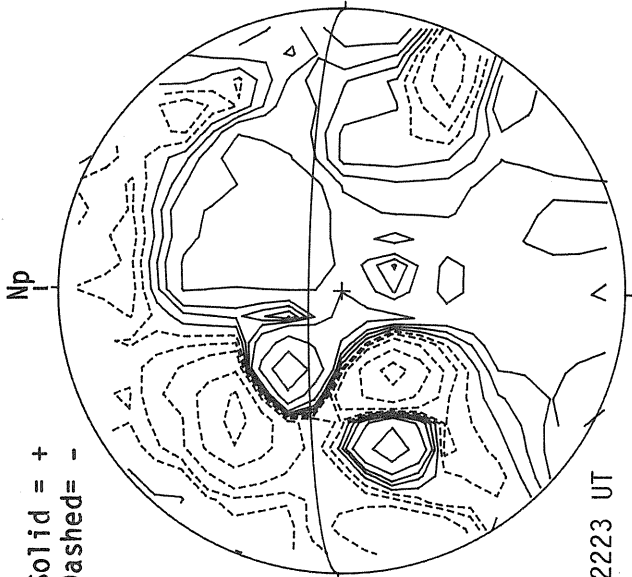
F E B R U A R Y 13, 1 9 8 3 (P=-16.56, B₀=-6.73, L₀= 33.13)

KITT PEAK MAGNETOGRAM



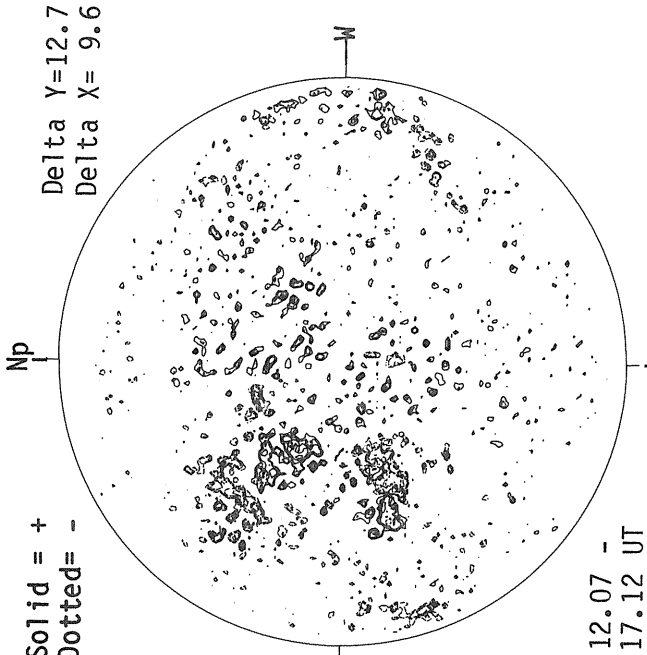
Bright = +
Dark = -

STANFORD MAGNETOGRAM



Solid = +
Dashed = -

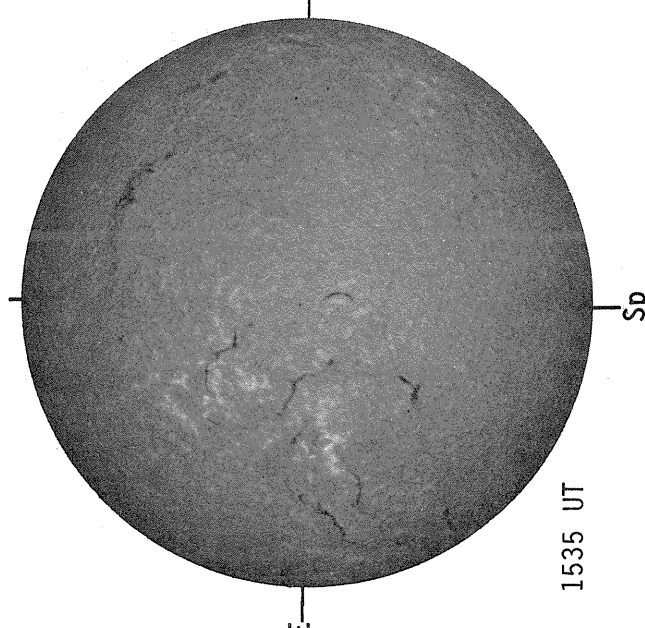
MT. WILSON MAGNETOGRAM



Solid = +
Dotted = -

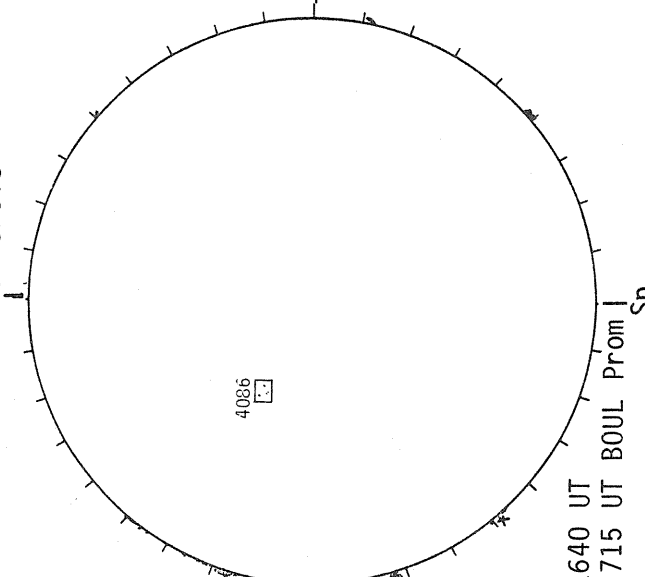
Delta Y = 12.7
Delta X = 9.6

SACRAMENTO PEAK H-ALPHA



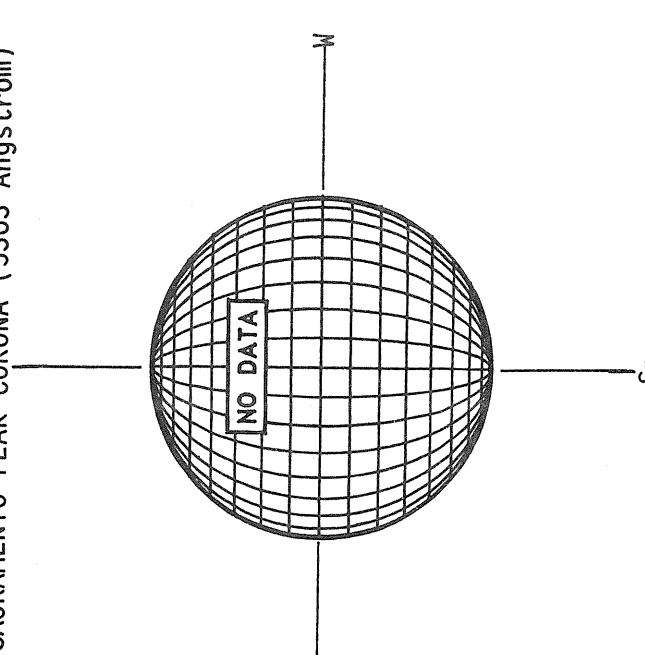
1535 UT

BOULDER SUNSPOTS



1640 UT
1715 UT BOUL Prom

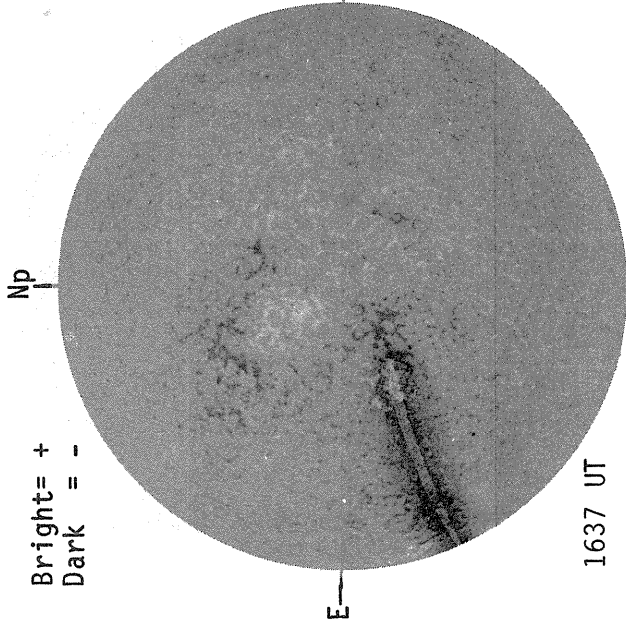
SACRAMENTO PEAK CORONA (5303 Angstrom)



NO DATA

FEBRUARY 14, 1983 (P=-16.91, B₀=-6.78, L₀= 19.96)

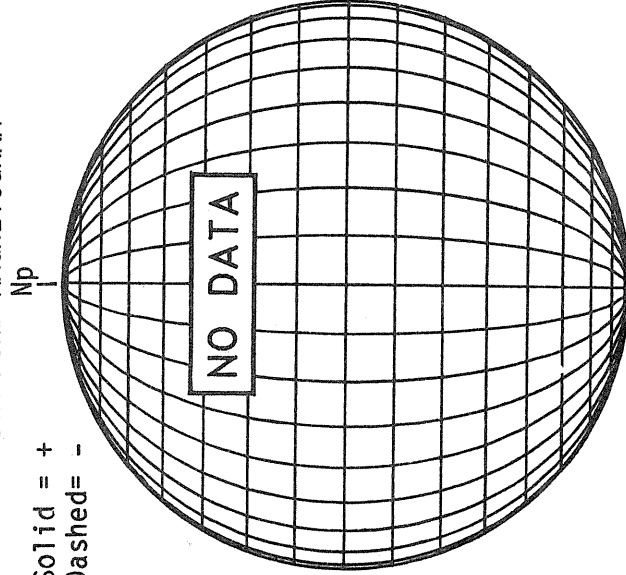
KITT PEAK MAGNETOGRAM



Bright = +
Dark = -

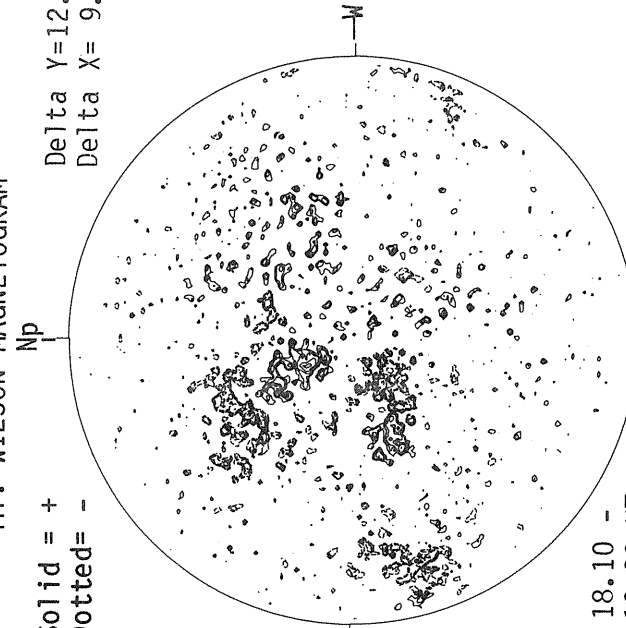
1637 UT

STANFORD MAGNETOGRAM



Solid = +
Dashed = -

MT. WILSON MAGNETOGRAM

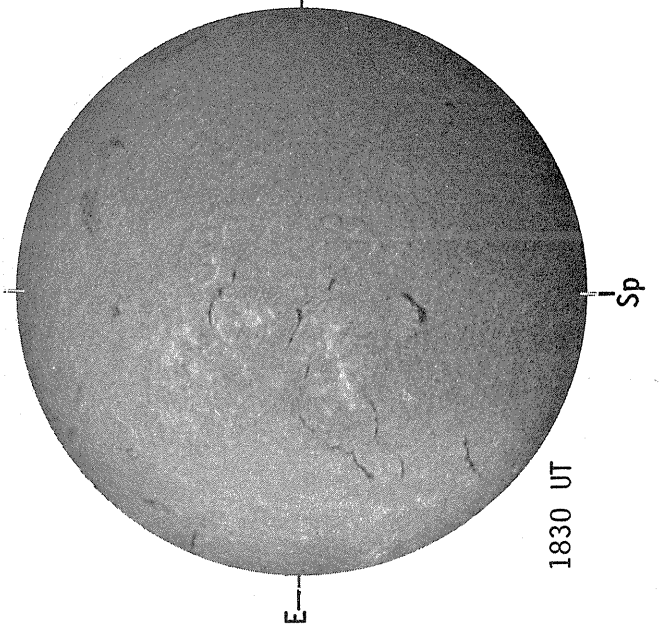


Solid = +
Dotted = -

Delta Y = 12.7
Delta X = 9.6

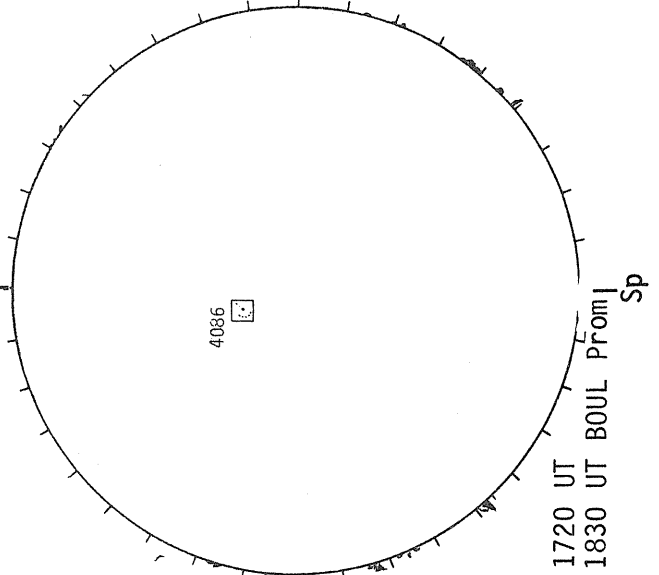
18.10 -
19.89 UT

BOULDER H-ALPHA



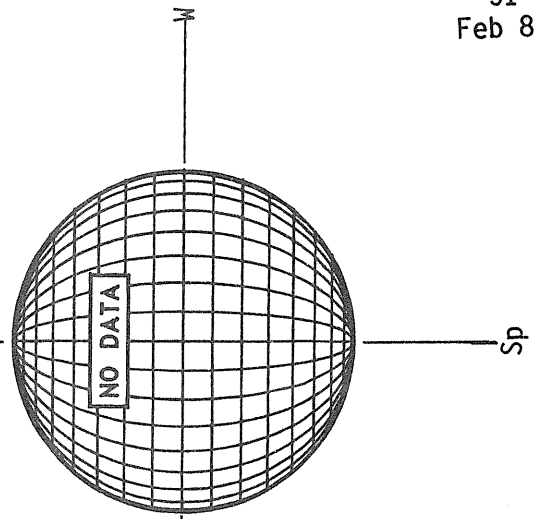
1830 UT

BOULDER SUNSPOTS



1720 UT
1830 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)

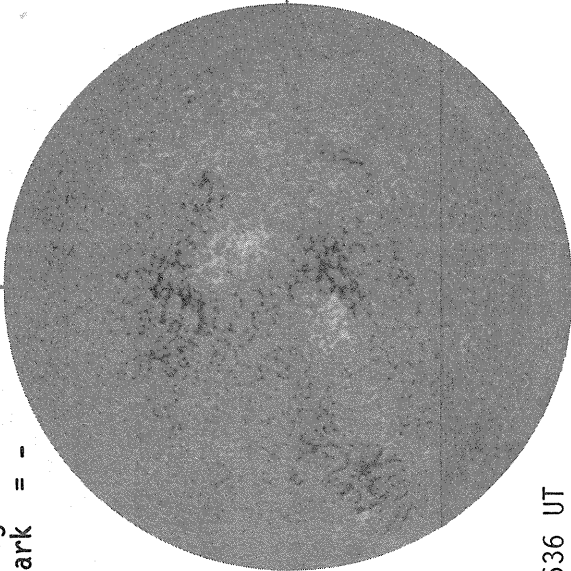


F E B R U A R Y 1 5 , 1 9 8 3 (P=-17.25, B₀=-6.82, L₀= 6.79)

KITT PEAK MAGNETOGRAM

Np

Bright = +
Dark = -

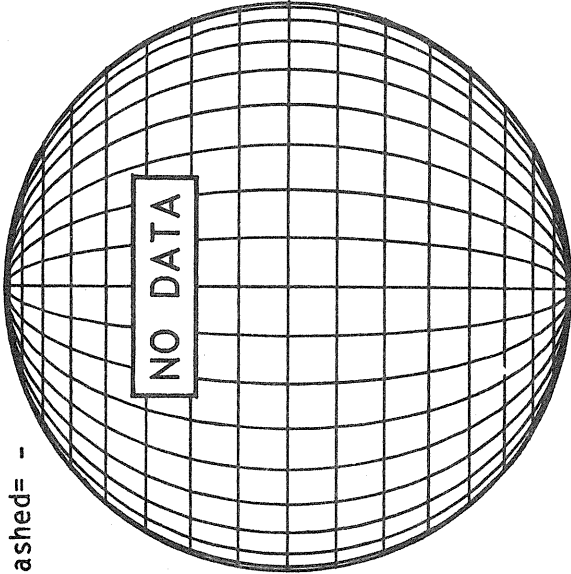


1636 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed = -

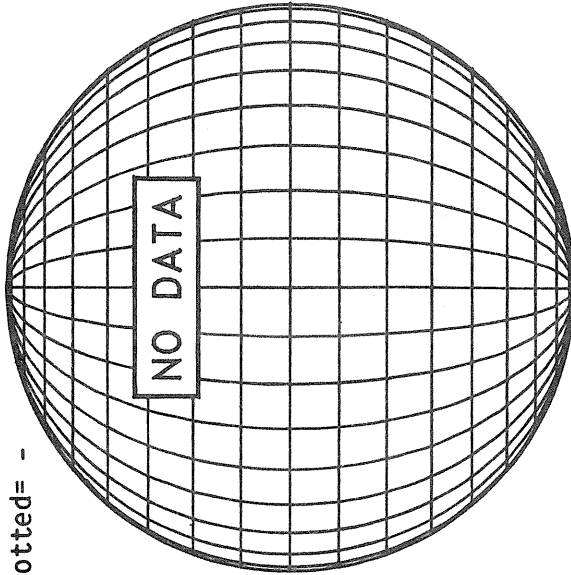


NO DATA

MT. WILSON MAGNETOGRAM

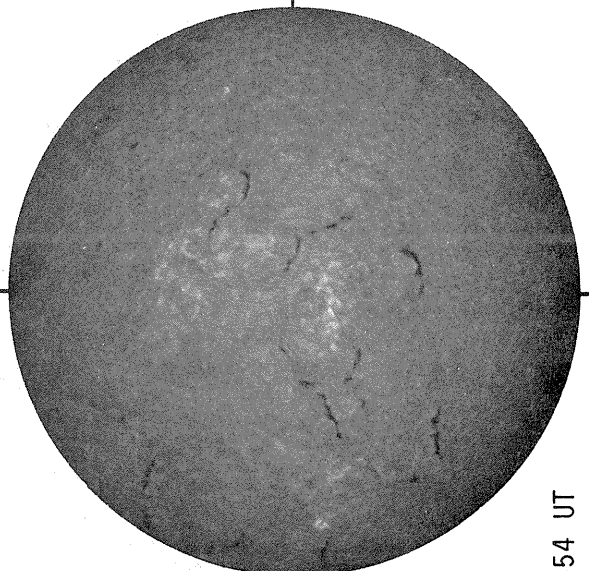
Np

Solid = +
Dotted = -



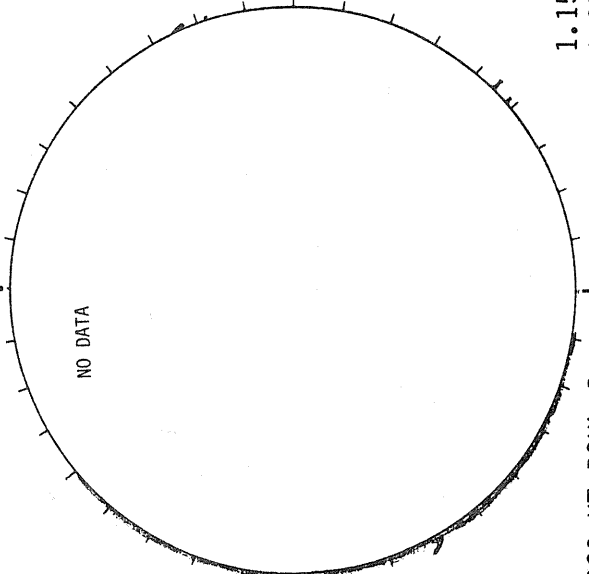
NO DATA

SACRAMENTO PEAK H-ALPHA



1554 UT

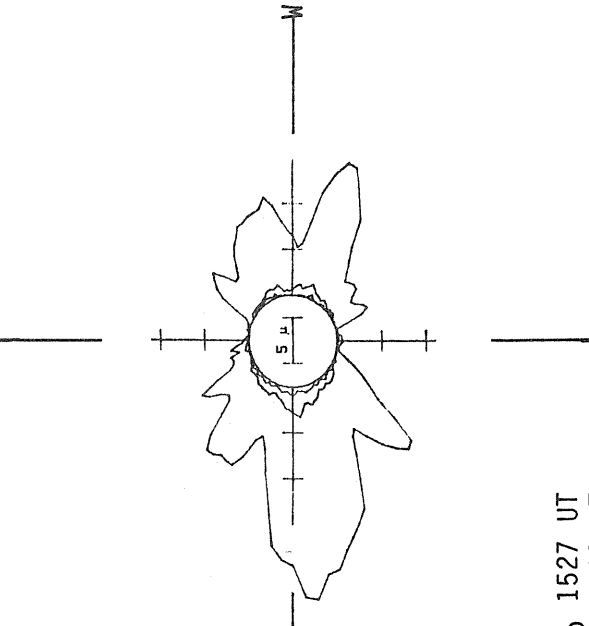
BOULDER SUNSPOTS



NO DATA

2020 UT BOUL Prom Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R₀ 1527 UT
1.35 R₀ 1513 UT
1.55 R₀ 1519 UT

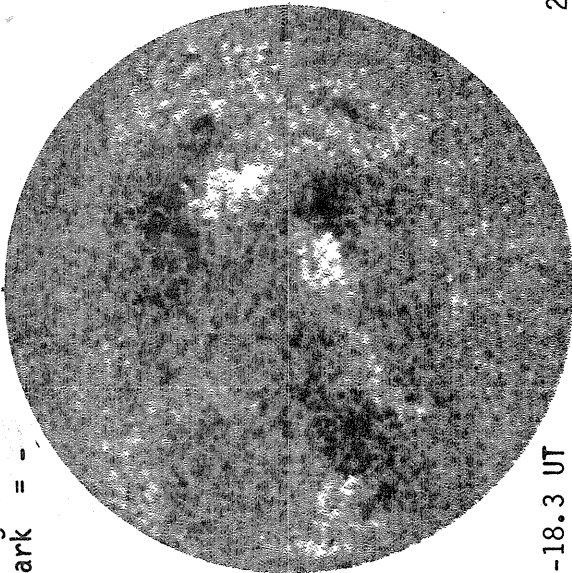
Sp

FEBRUARY 16, 1983 (P=-17.58, B₀=-6.86, L₀= 353.62)

MT. WILSON MAGNETOGRAM

Np

Bright = +
Dark = -

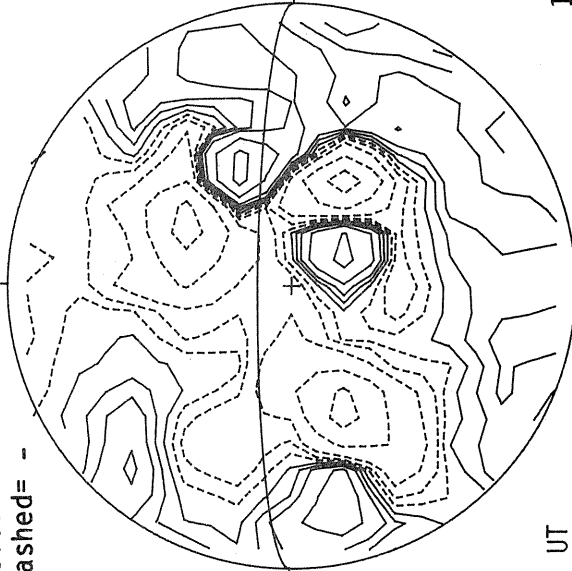


17.3-18.3 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed = -



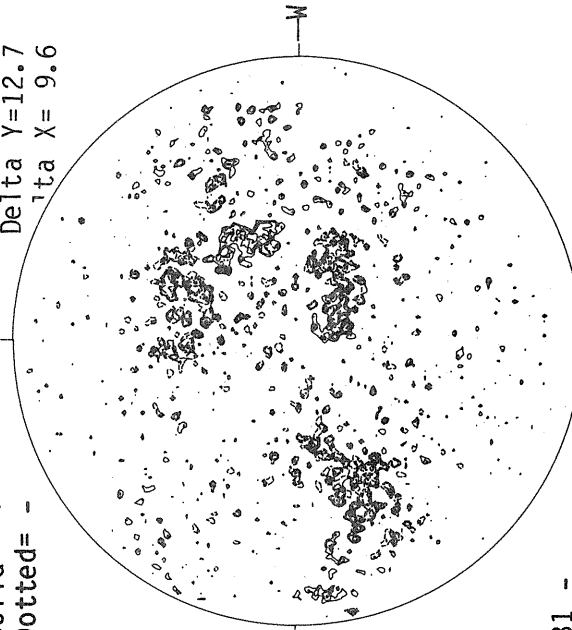
2314 UT

MT. WILSON MAGNETOGRAM

Np

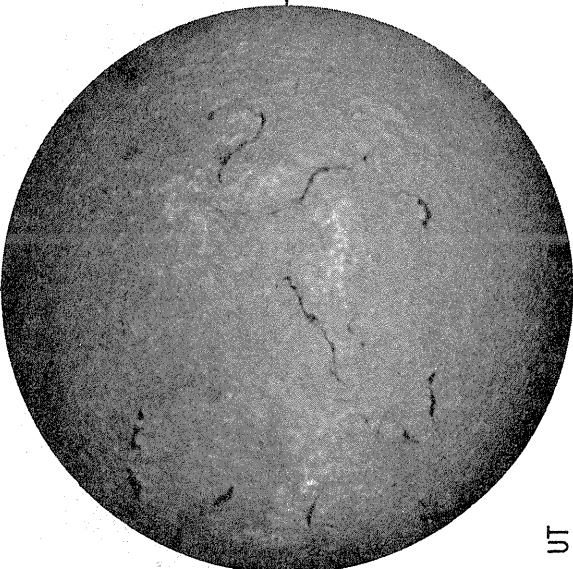
Solid = +
Dotted = -

Delta Y = 12.7
Delta X = 9.6



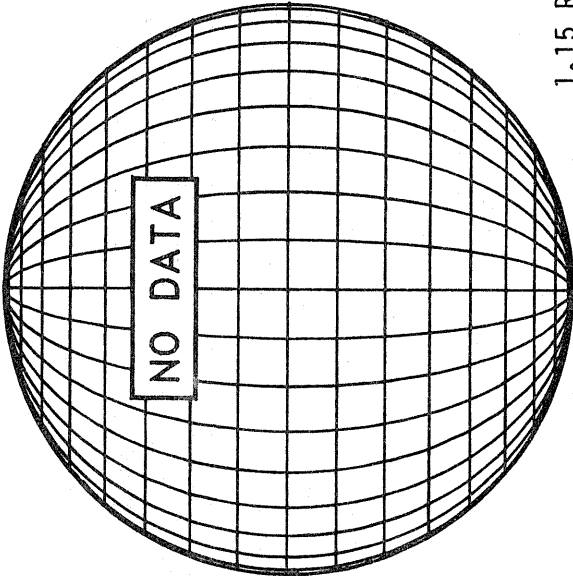
17.31 -
18.27 UT

SACRAMENTO PEAK H-ALPHA



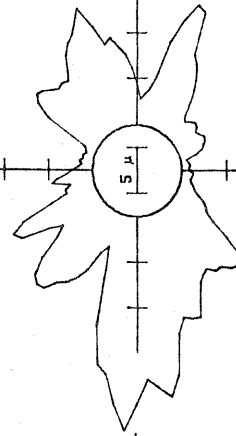
1614 UT

BOULDER SUNSPOTS



1.15 R₀ 1646 UT

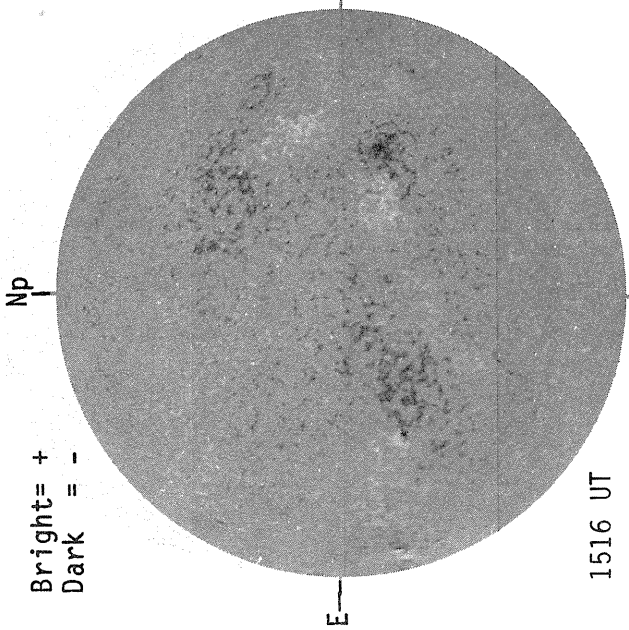
SACRAMENTO PEAK CORONA (5303 Angstrom)



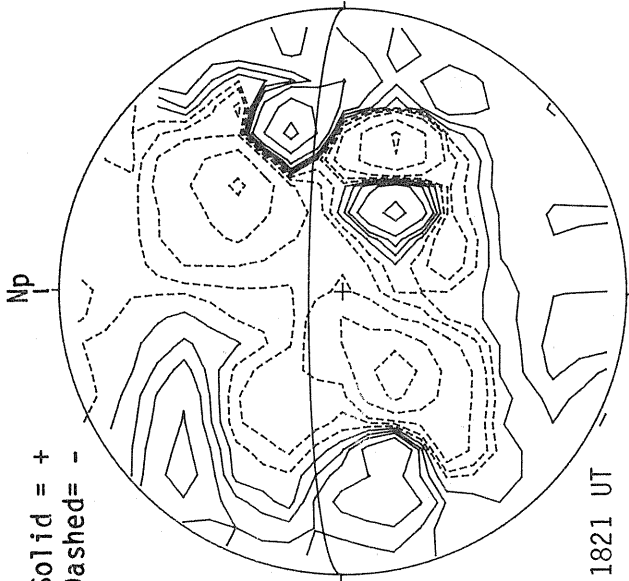
Feb 54
83

FEBRUARY 17, 1983 (P=-17.91, B₀=-6.90, L₀=340.46)

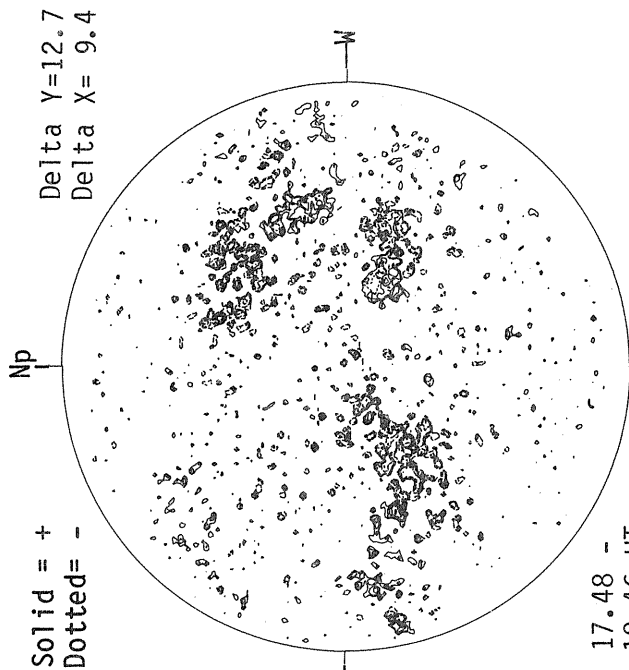
KITT PEAK MAGNETOGRAM



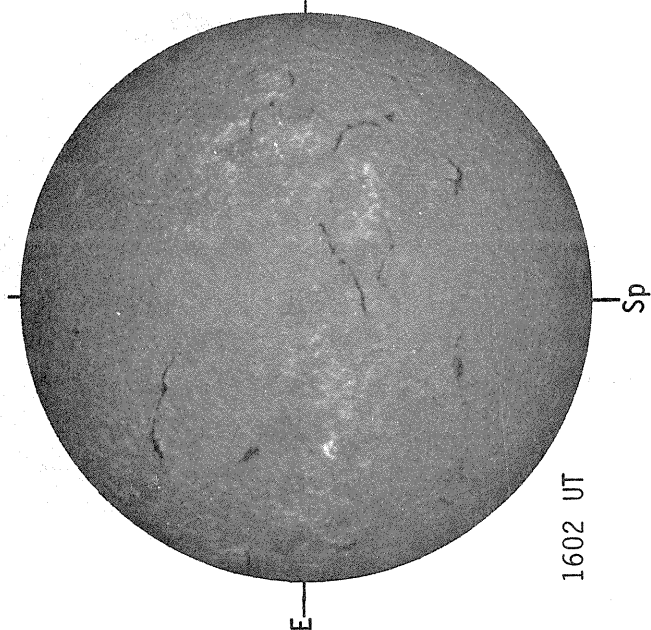
STANFORD MAGNETOGRAM



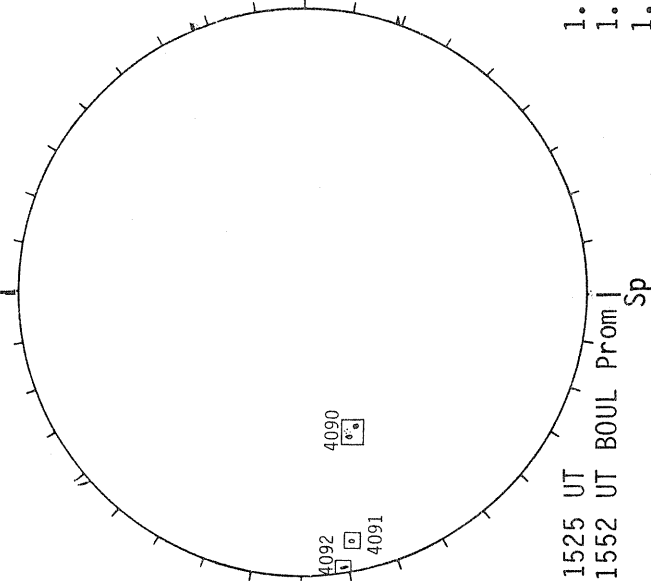
MT. WILSON MAGNETOGRAM



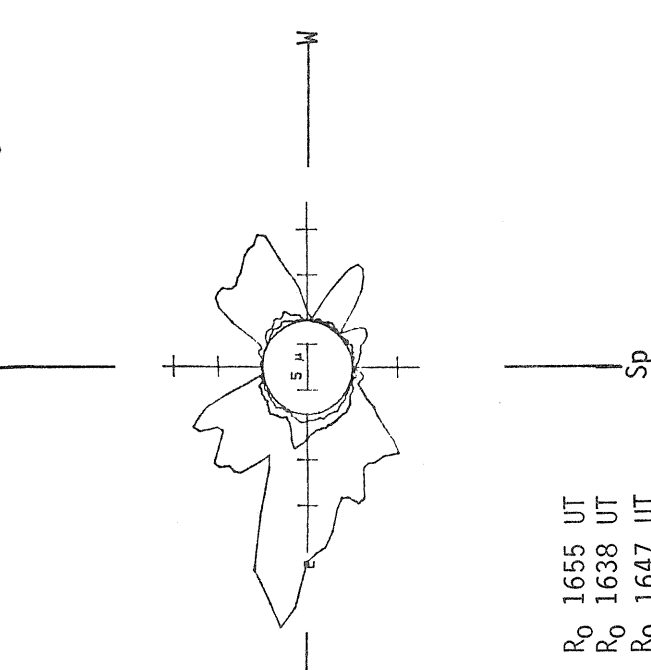
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



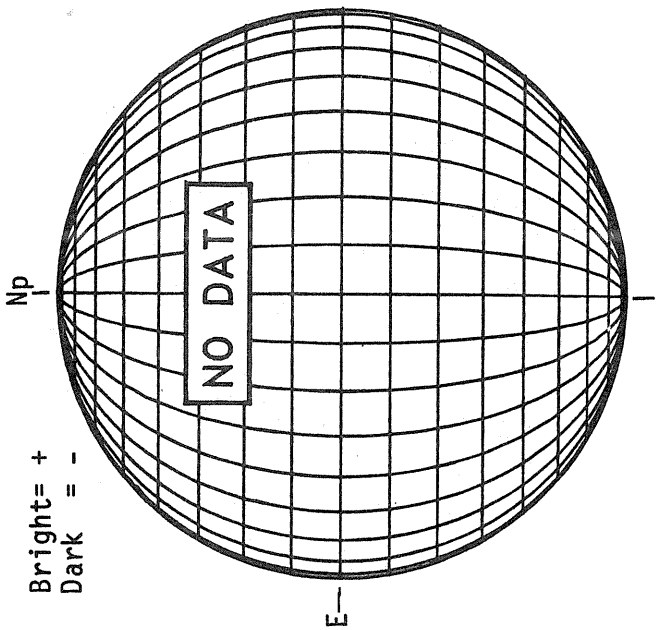
SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R₀
1.35 R₀
1.55 R₀

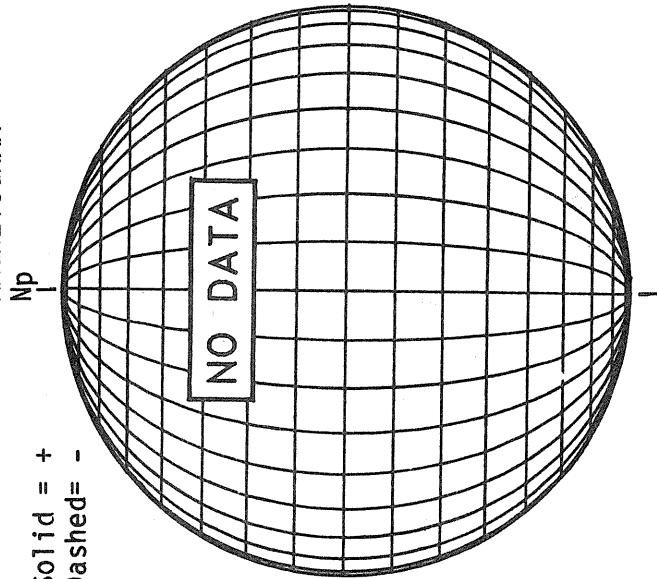
FEBRUARY 18, 1983 (P=-18.24, B₀=-6.94, L₀=327.29)

KITT PEAK MAGNETOGRAM



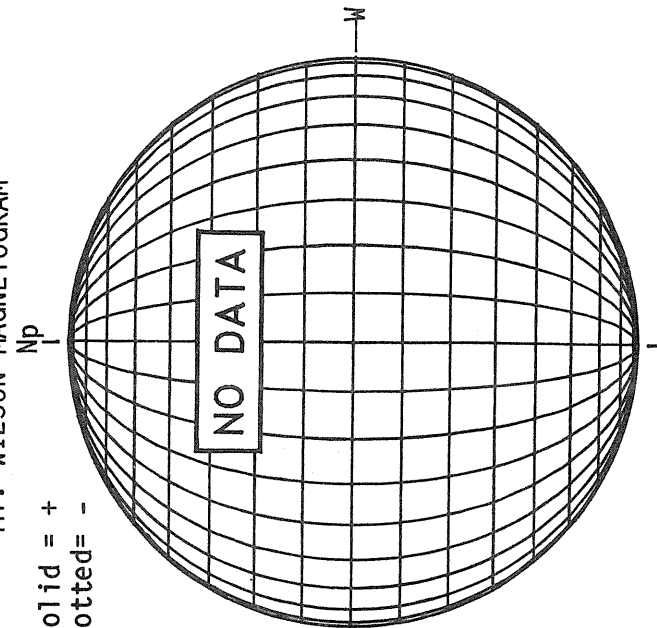
Bright= +
Dark = -

STANFORD MAGNETOGRAM



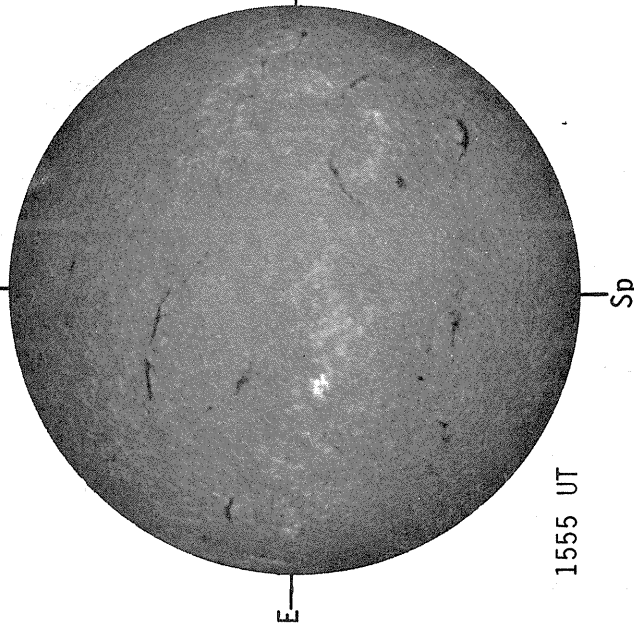
Solid = +
Dashed = -

MT. WILSON MAGNETOGRAM



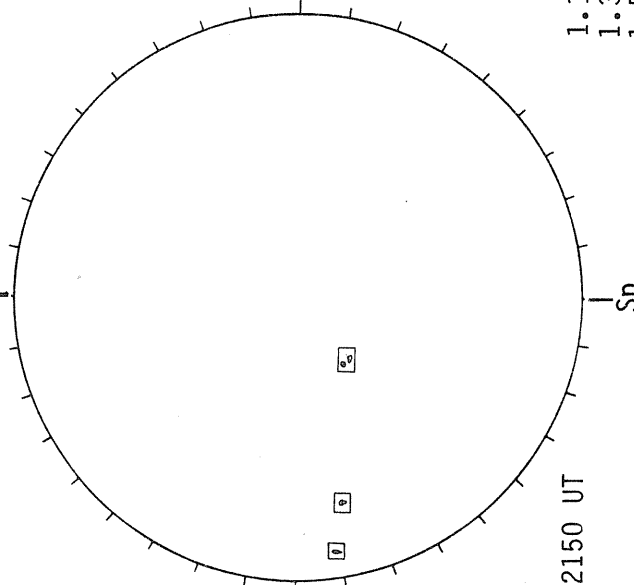
Solid = +
Dotted = -

SACRAMENTO PEAK H-ALPHA



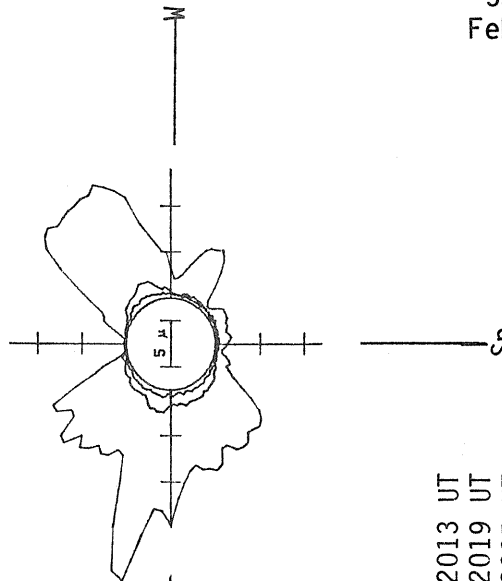
1555 UT

BOULDER SUNSPOTS



2150 UT

SACRAMENTO PEAK CORONA (5303 Angstrom)

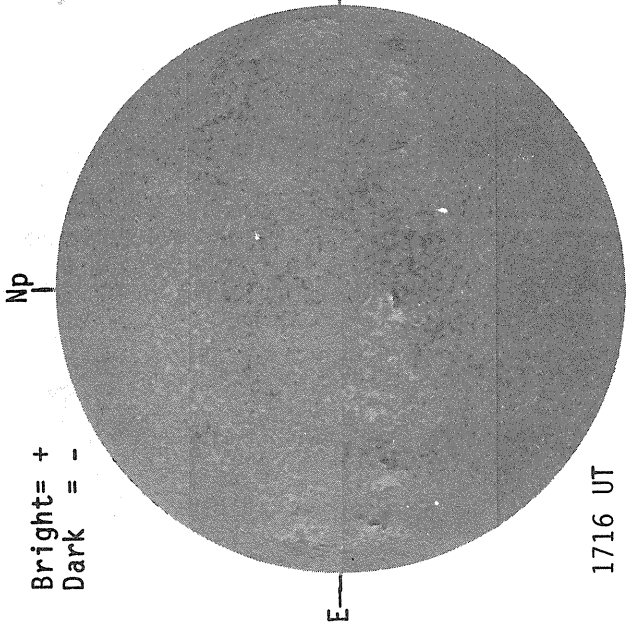


1.15 R₀ 2013 UT
1.35 R₀ 2019 UT
1.55 R₀ 2025 UT

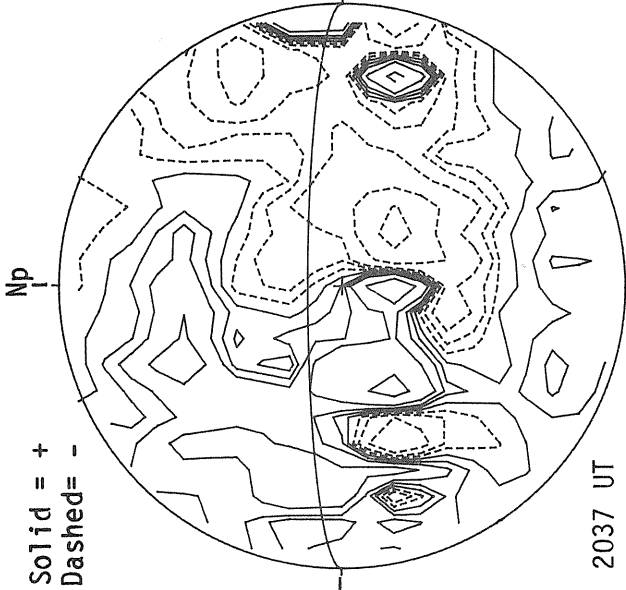
F E B R U A R Y 19, 1 9 8 3 (P=-18.56, B₀=-6.98, L₀= 314.12)

56
Feb 83

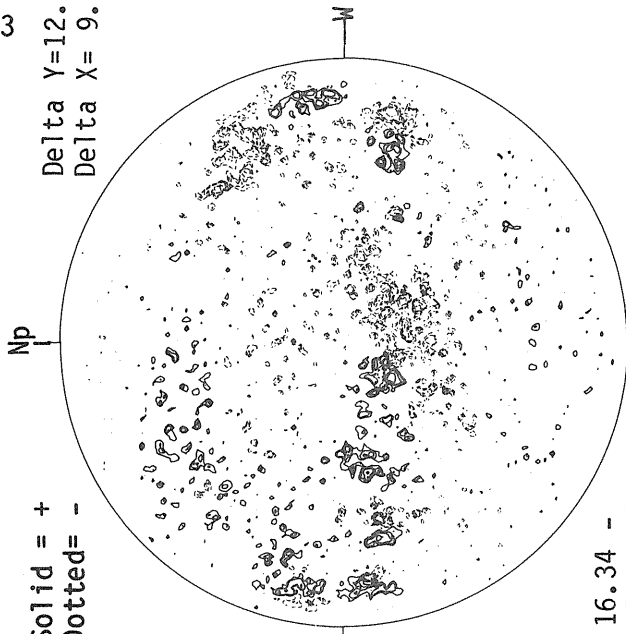
KITT PEAK MAGNETOGRAM



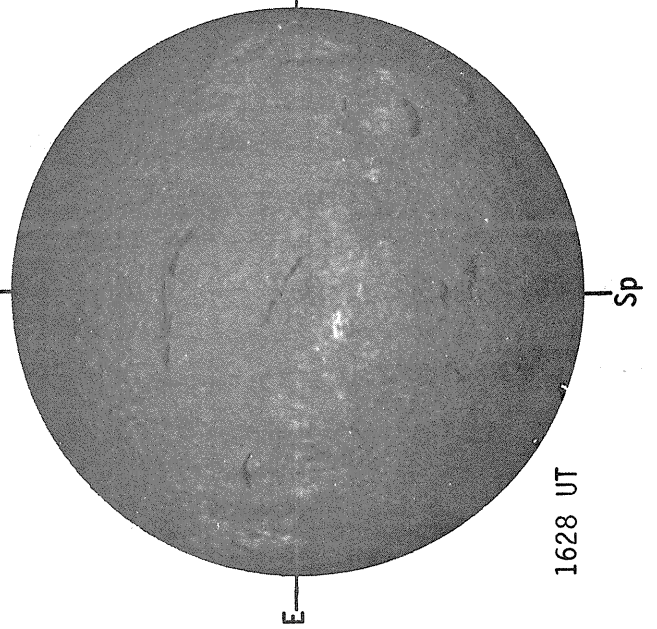
STANFORD MAGNETOGRAM



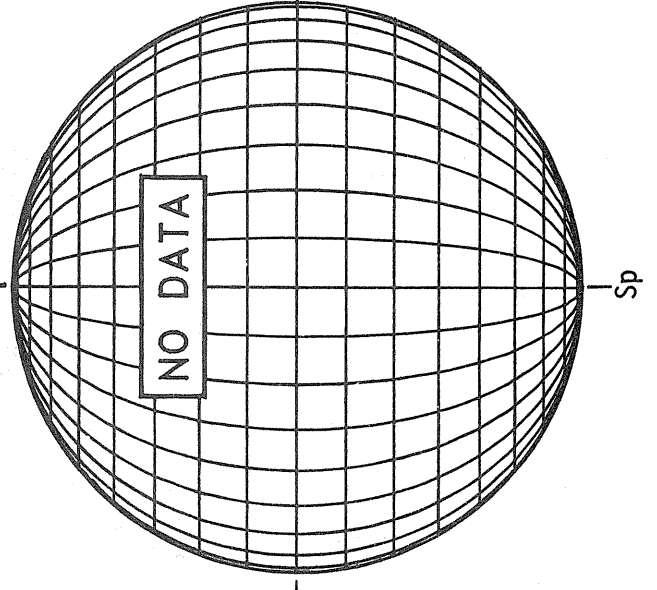
MT. WILSON MAGNETOGRAM



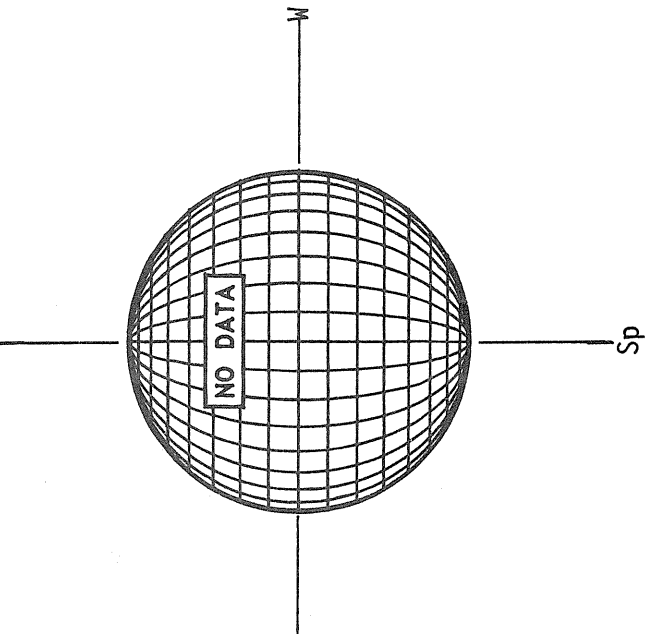
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

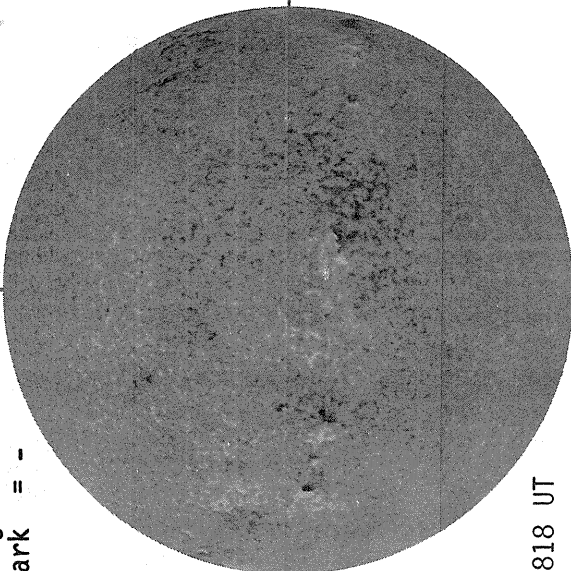


F E B R U A R Y 20, 1 9 8 3 (P=-18.87, B₀=-7.01, L₀= 300.95)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

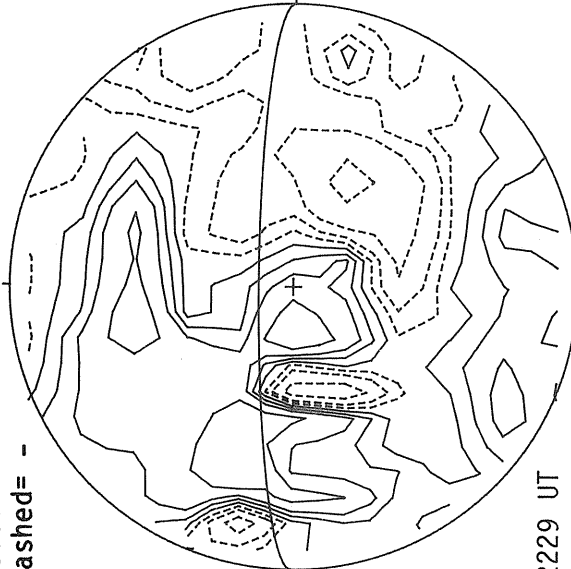


1818 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

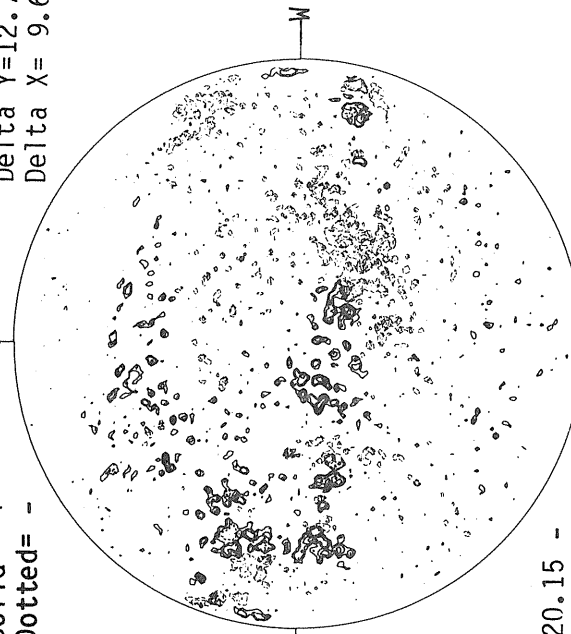


2229 UT

MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

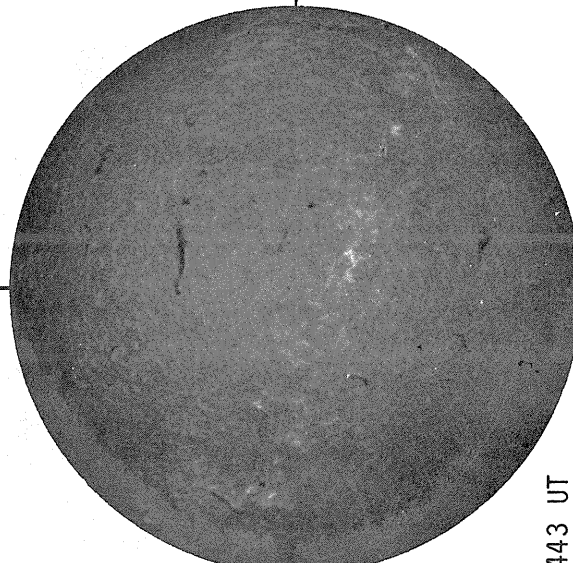
Np



20.15 -
21.30 UT

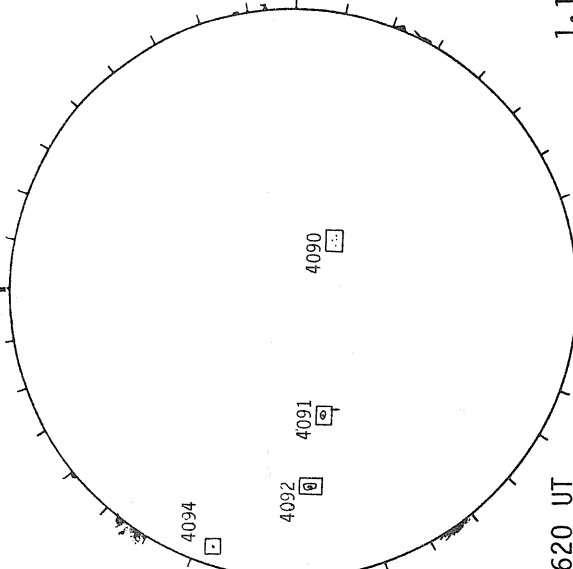
Delta Y=12.7
Delta X= 9.6

SACRAMENTO PEAK H-ALPHA



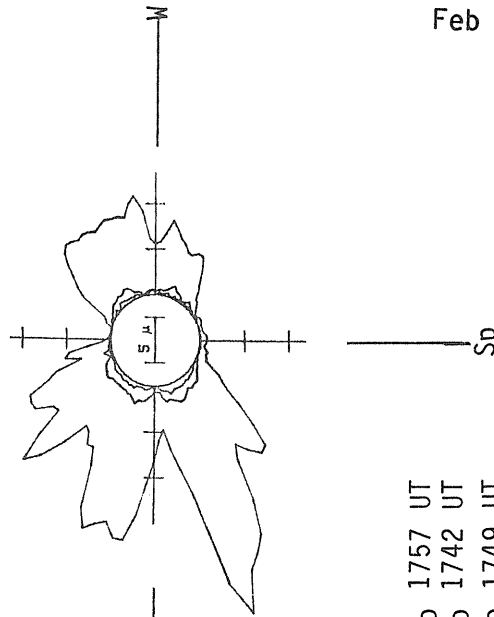
1443 UT

BOULDER SUNSPOTS



1620 UT
1640 UT BOUL Prom
Sp

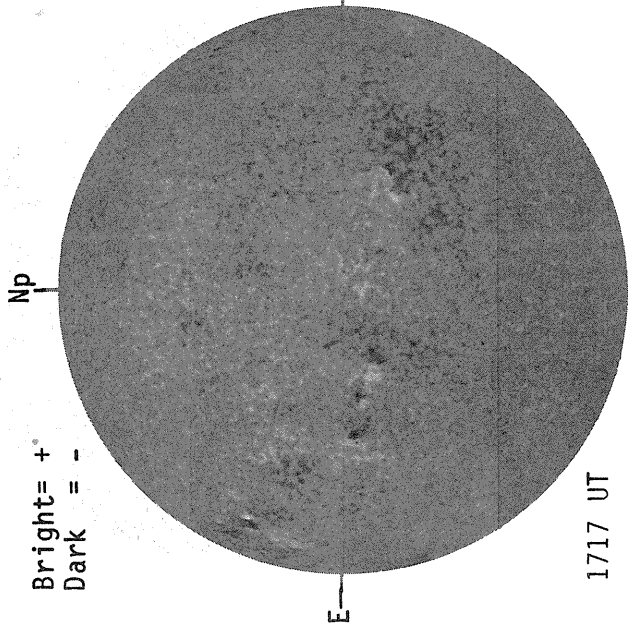
SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R₀ 1757 UT
1.35 R₀ 1742 UT
1.55 R₀ 1749 UT

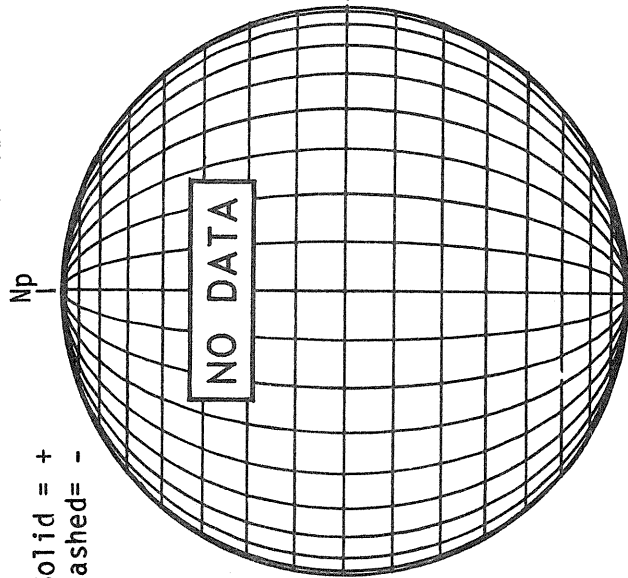
F E B R U A R Y 21, 1 9 8 3 (P=-19.18, B₀=-7.04, L₀= 287.78)

KITT PEAK MAGNETOGRAM



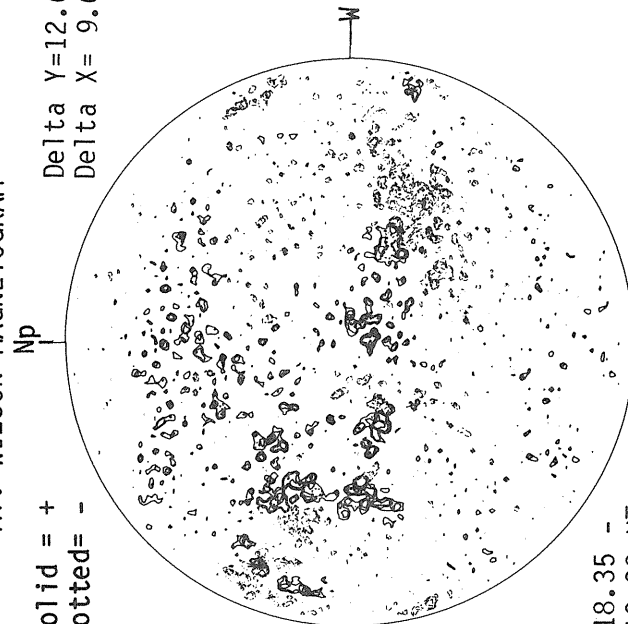
Bright= +
Dark = -

STANFORD MAGNETOGRAM



Solid = +
Dashed = -

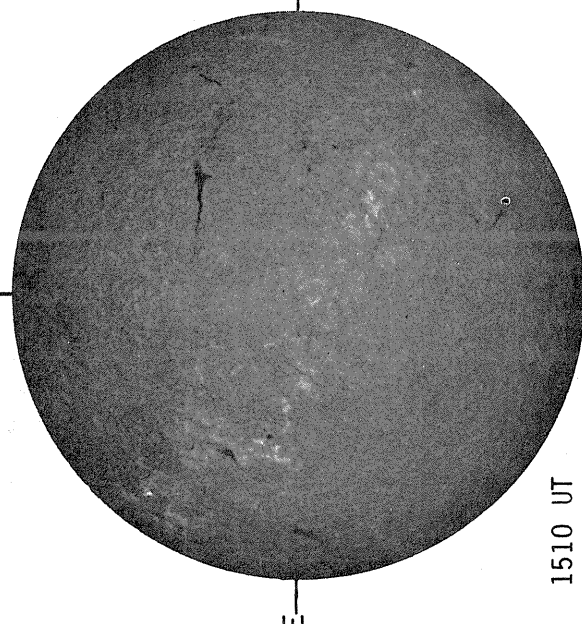
MT. WILSON MAGNETOGRAM



Solid = +
Dotted = -

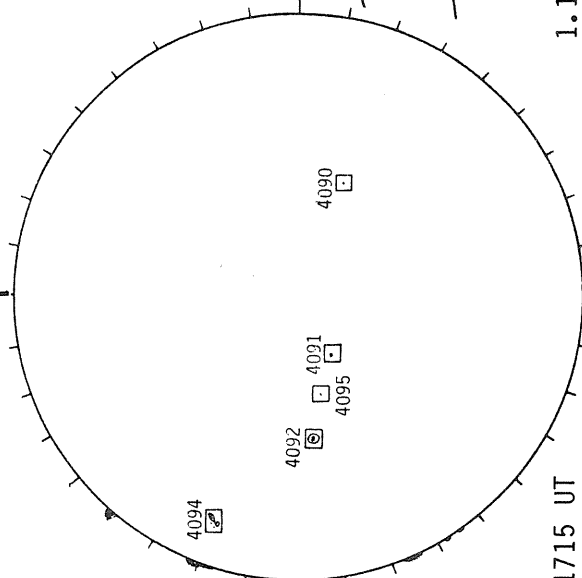
Delta Y = 12.6
Delta X = 9.6

SACRAMENTO PEAK H-ALPHA



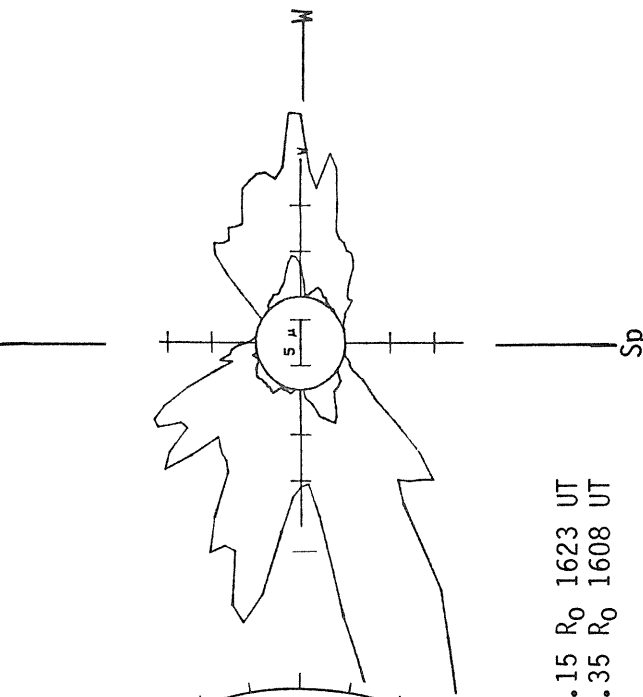
1510 UT

BOULDER SUNSPOTS



1715 UT
1730 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



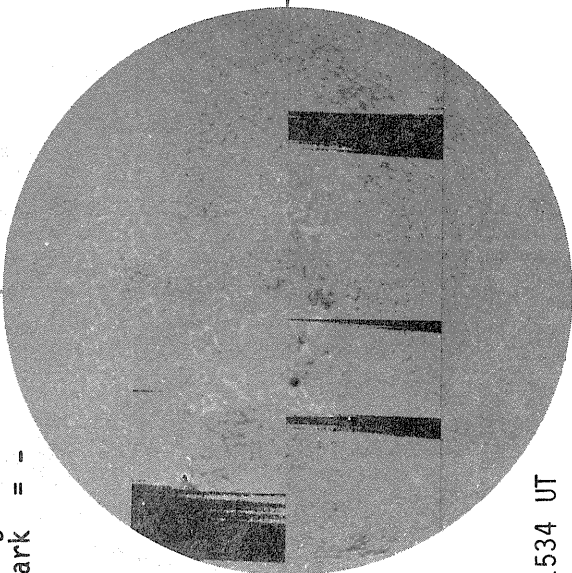
1.15 R_{sun} 1623 UT
1.35 R_{sun} 1608 UT

F E B R U A R Y 22, 1 9 8 3 (P=-19.48, B₀=-7.07, L₀= 274.61)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

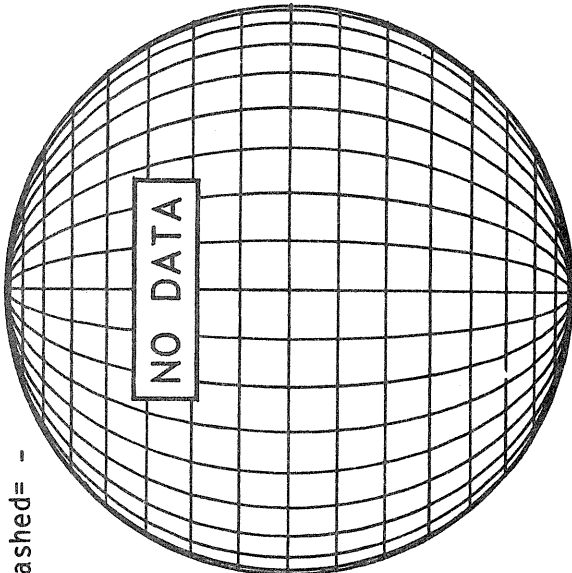


1534 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed = -

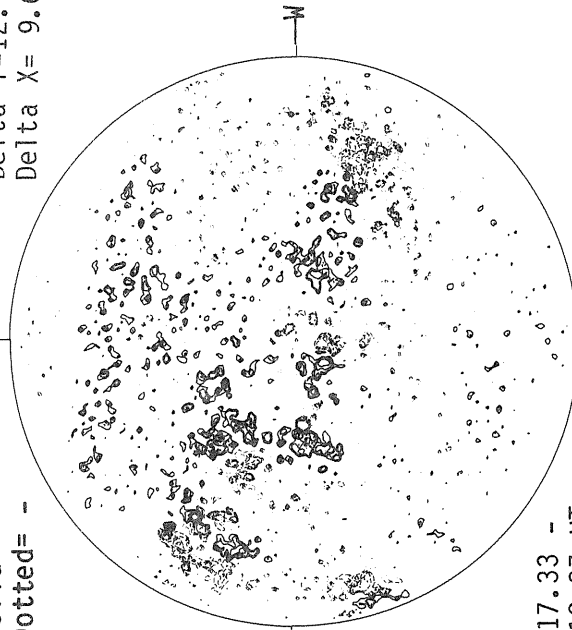


MT. WILSON MAGNETOGRAM

Np

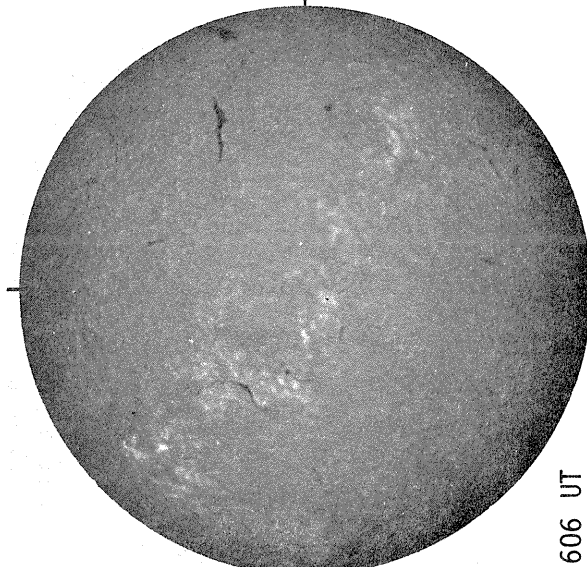
Solid = +
Dotted = -

Delta Y=12.7
Delta X= 9.6



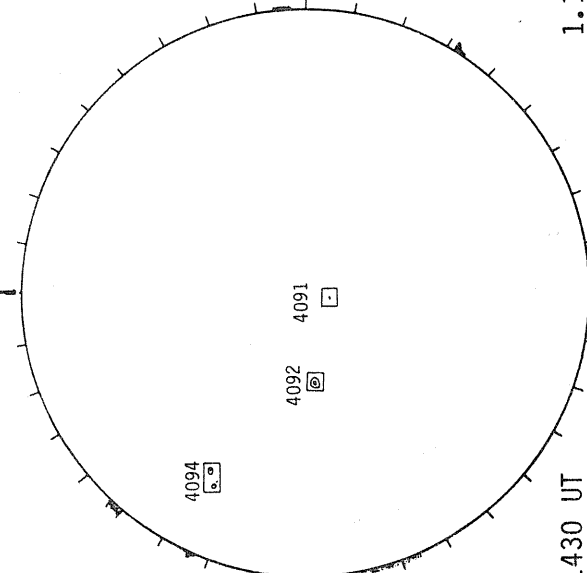
17.33 -
18.27 UT

SACRAMENTO PEAK H-ALPHA



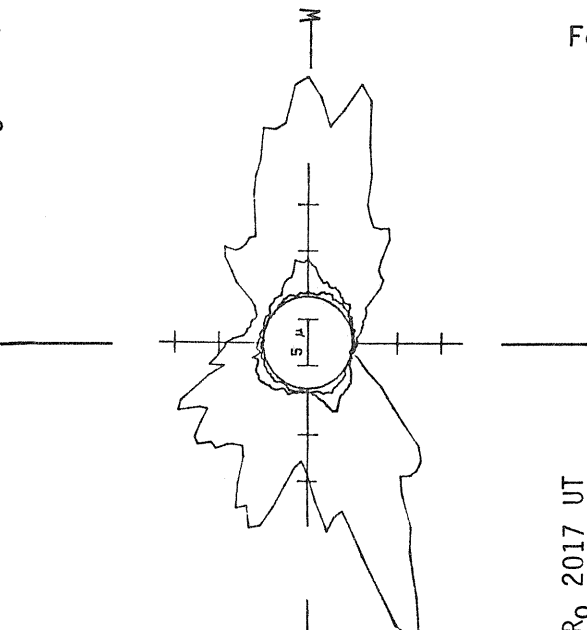
1606 UT

BOULDER SUNSPOTS



1430 UT
1520 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R₀ 2017 UT
1.35 R₀ 2023 UT
1.55 R₀ 2029 UT

Sp

Sp

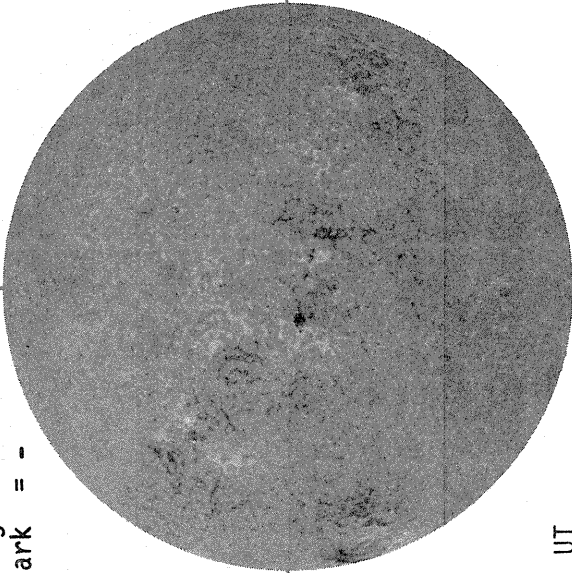
Sp

F E B R U A R Y 23, 1 9 8 3 (P=-19.78, B₀=-7.10, L₀= 261.44)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

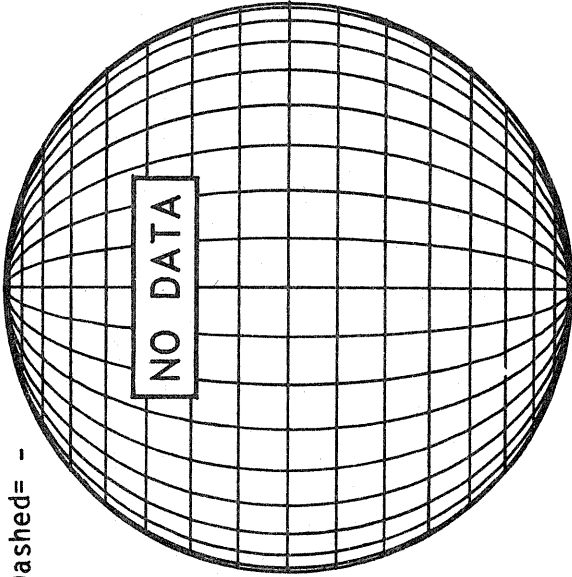


1518 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

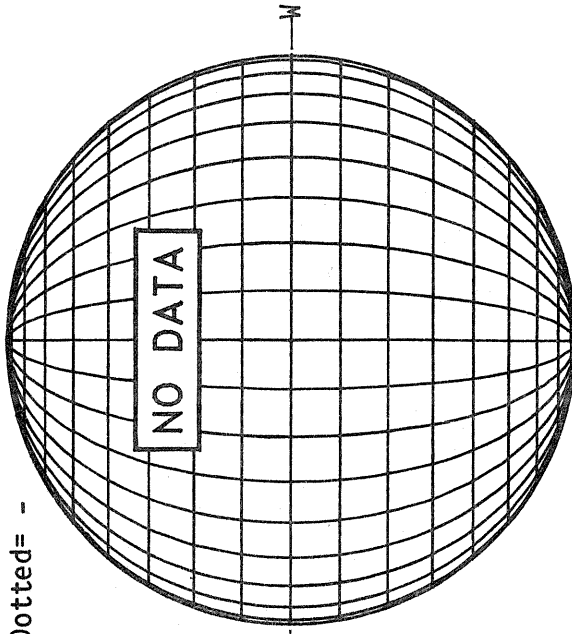
Np



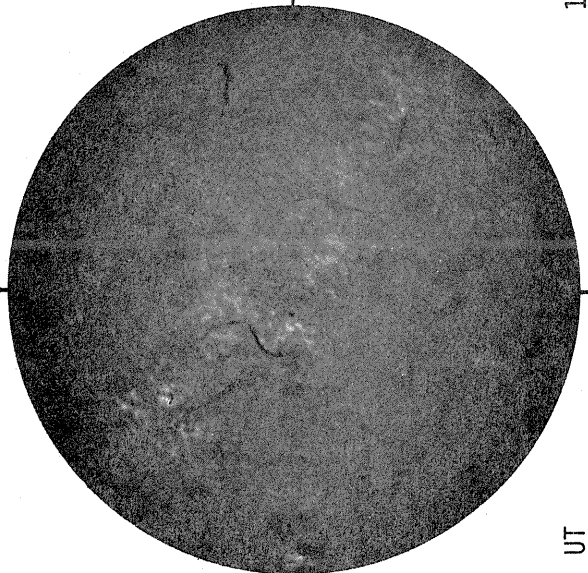
MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

Np

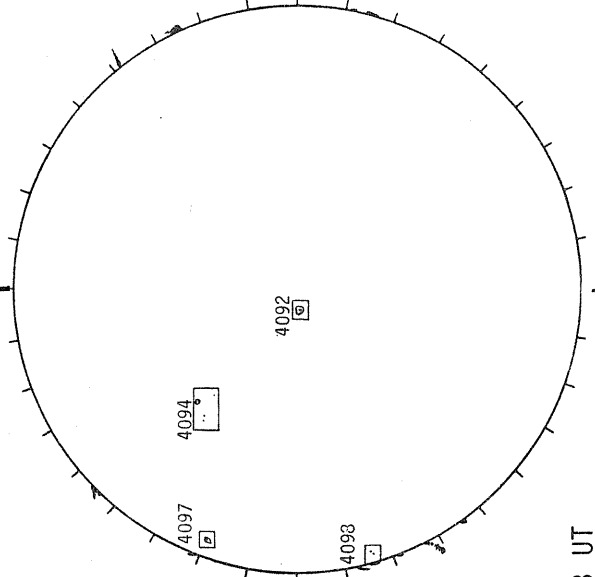


SACRAMENTO PEAK H-ALPHA



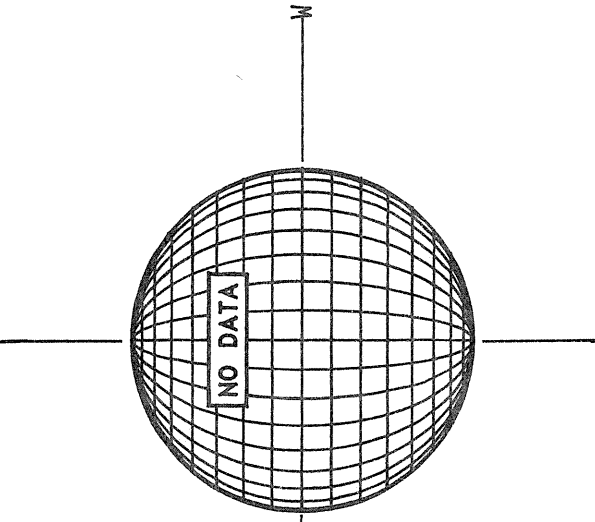
1434 UT

BOULDER SUNSPOTS



1438 UT
2030 UT BOUL Prom

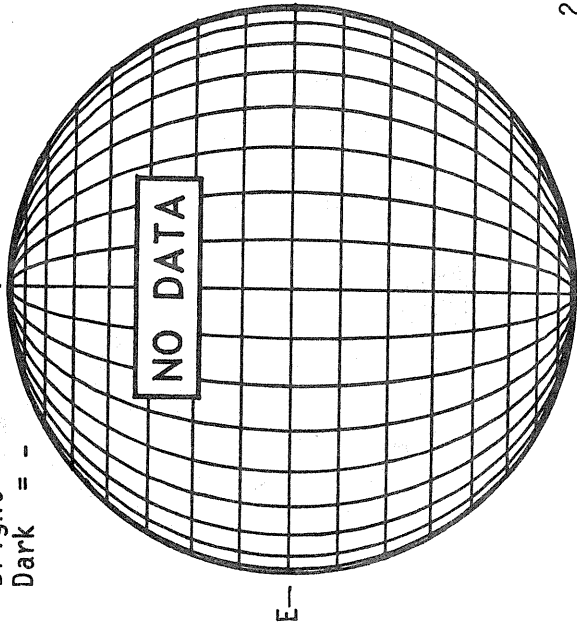
SACRAMENTO PEAK CORONA (5303 Angstrom)



F E B R U A R Y 24, 1 9 8 3 (P=-20.07, B₀=-7.12, L₀= 248.27)

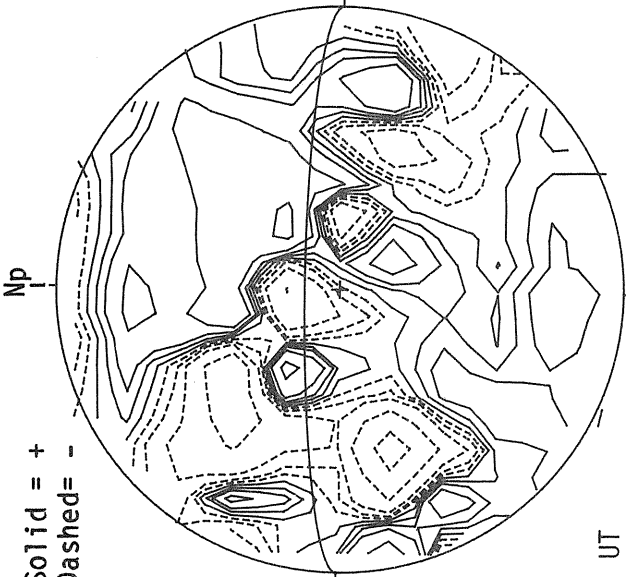
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



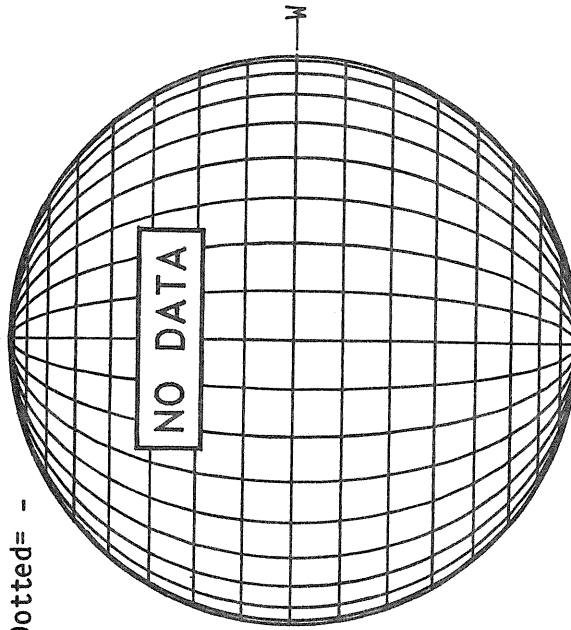
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

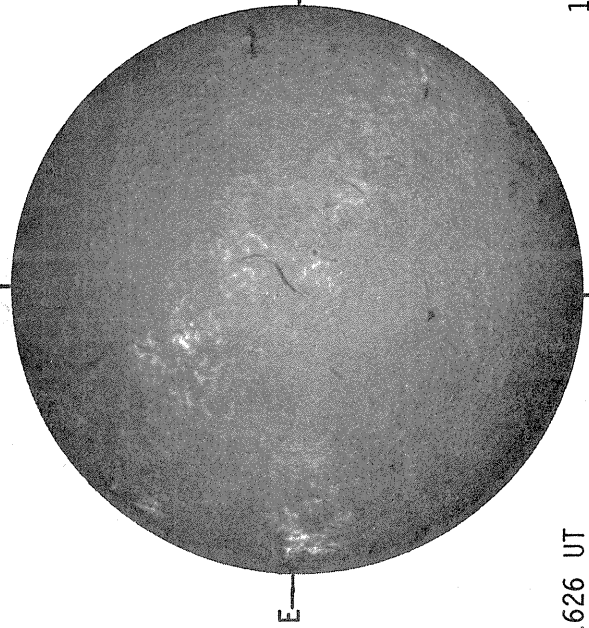


MT. WILSON MAGNETOGRAM

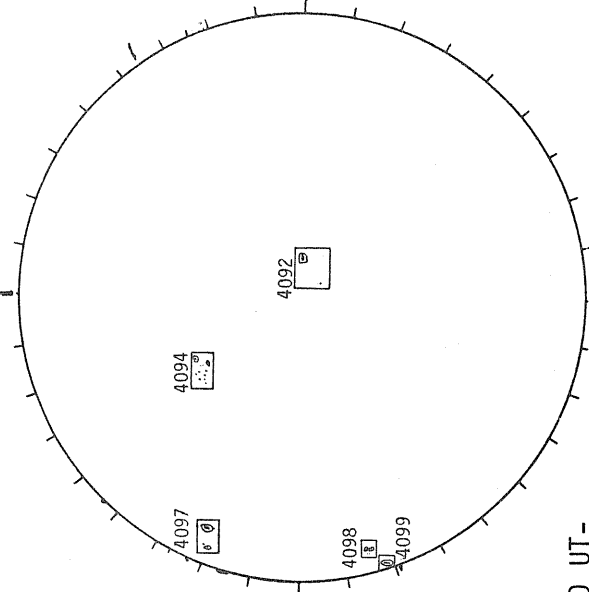
Solid = +
Dotted = -



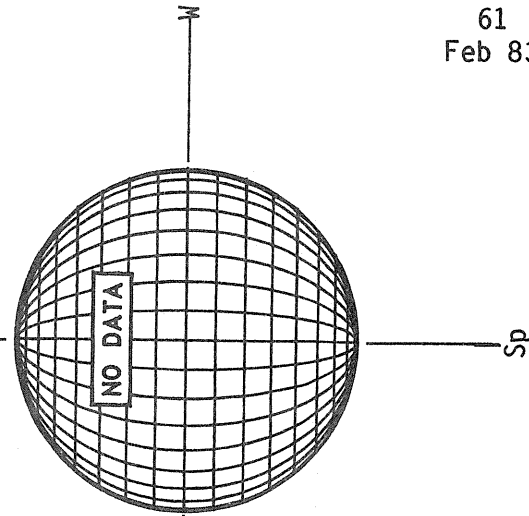
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



1626 UT

1500 UT-

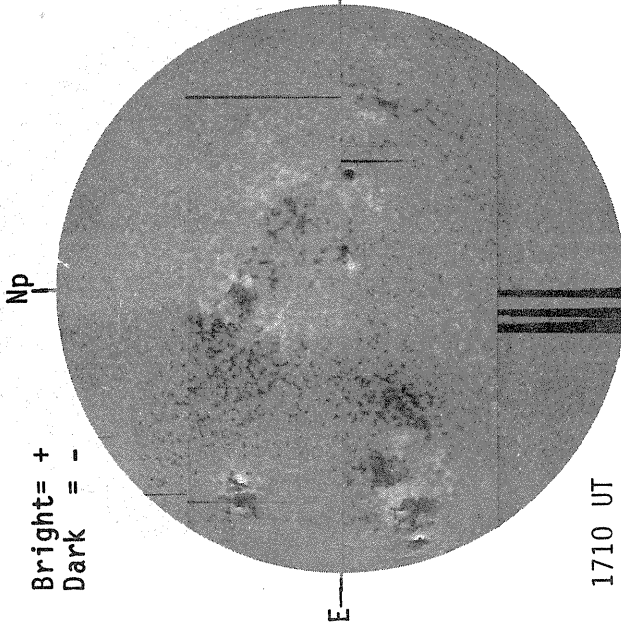
1445 UT BOUL Prom

2310 UT

F E B R U A R Y 25, 1 9 8 3 (P=-20.35, B₀=-7.15, L₀= 235.10)

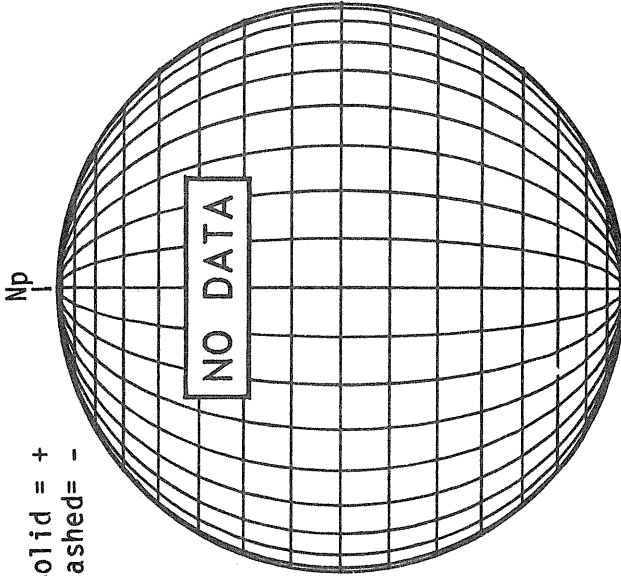
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



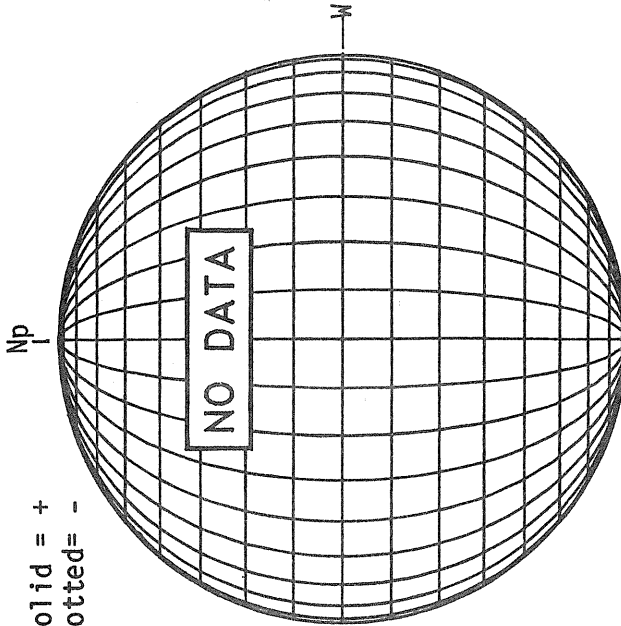
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

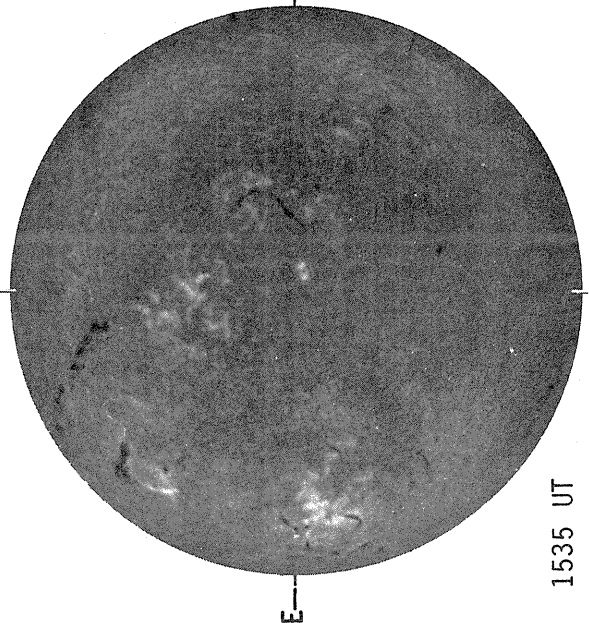


MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

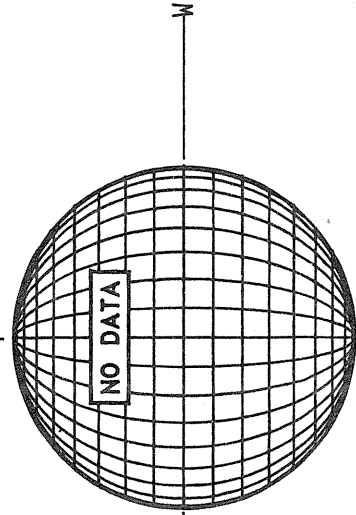
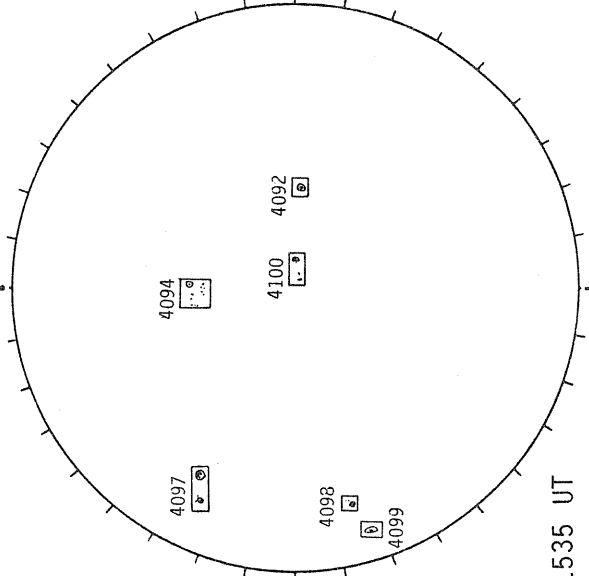


BOULDER H-ALPHA



BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (5303 Angstrom)



1535 UT

1535 UT

Sp

Sp

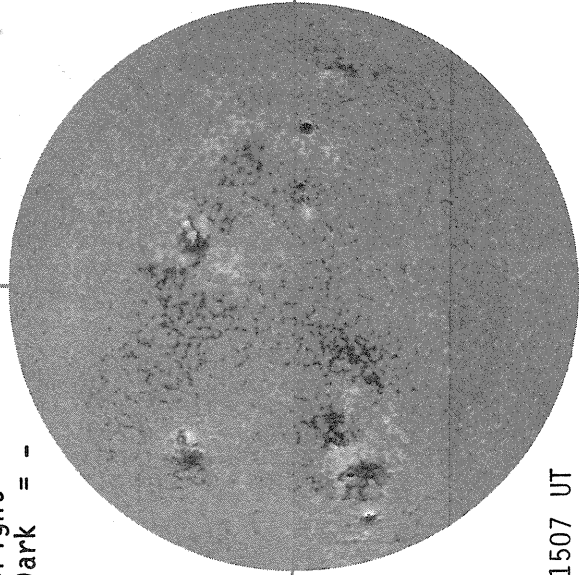
Sp

F E B R U A R Y 26, 1 9 8 3 (P=-20.63, B₀=-7.17, L₀= 221.93)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

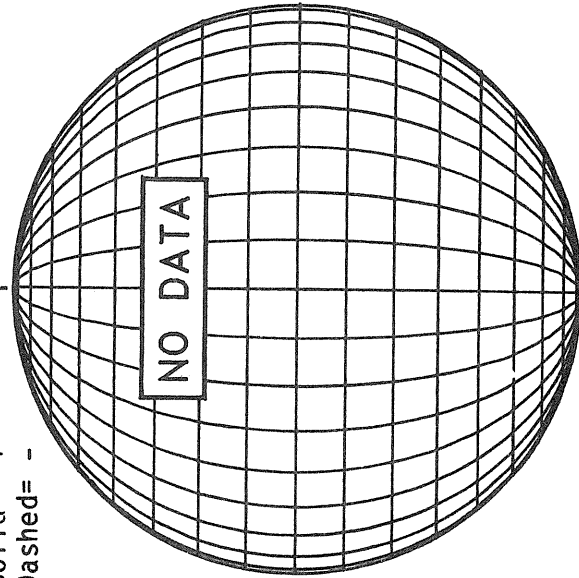


1507 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

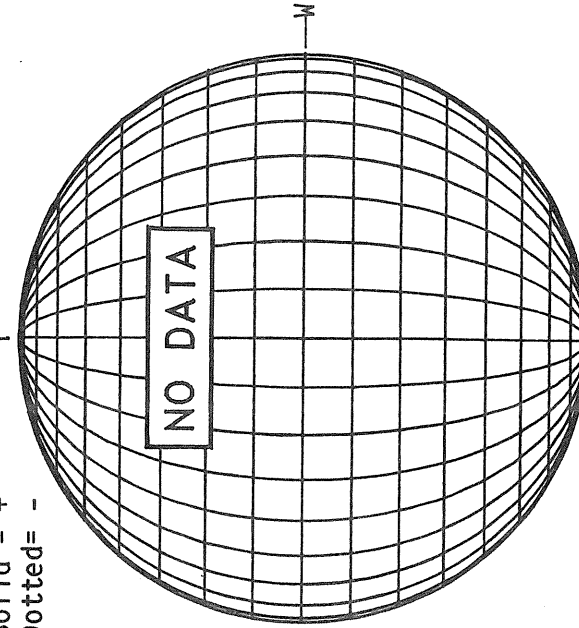


NO DATA

MT. WILSON MAGNETOGRAM

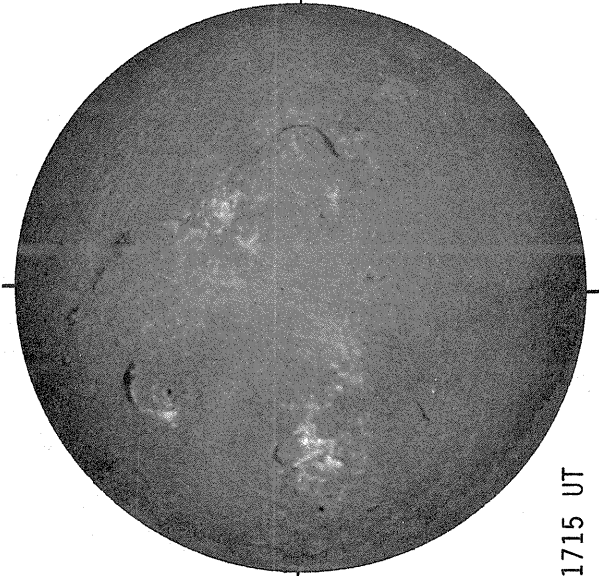
Solid = +
Dotted = -

Np



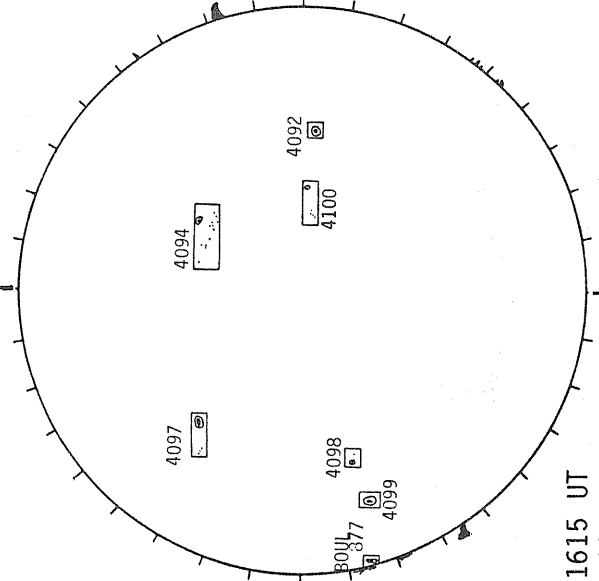
NO DATA

SACRAMENTO PEAK H-ALPHA



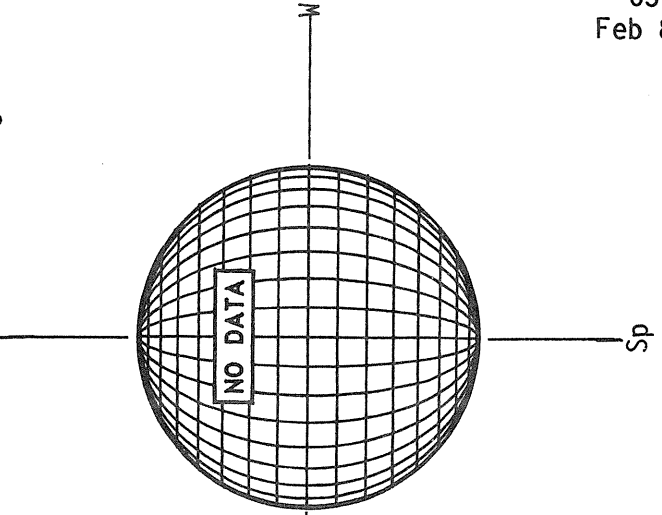
1715 UT

BOULDER SUNSPOTS



1615 UT
1645 UT BOUL Prom Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



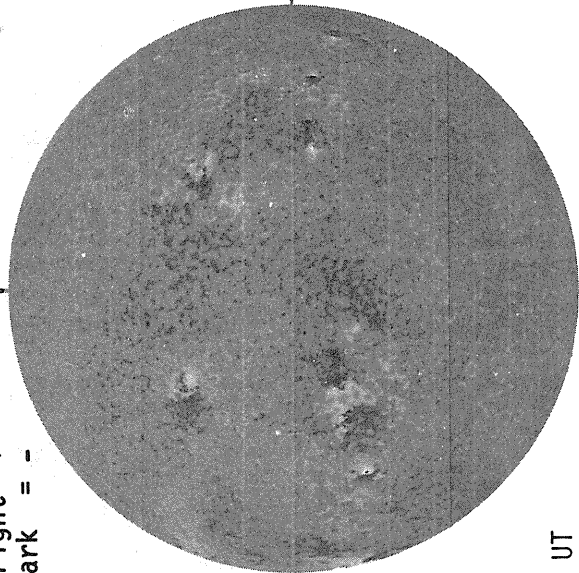
NO DATA

F E B R U A R Y 27, 1 9 8 3 (P=-20.90, B₀=-7.18, L₀= 208.76)

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -

Np

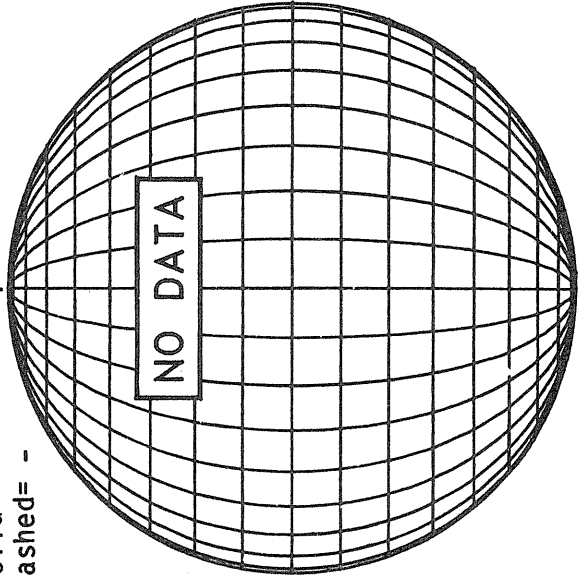


1528 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np



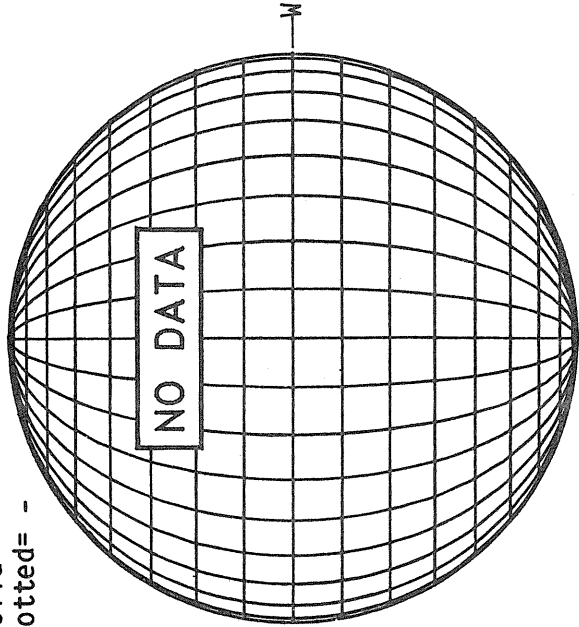
NO DATA

NO DATA

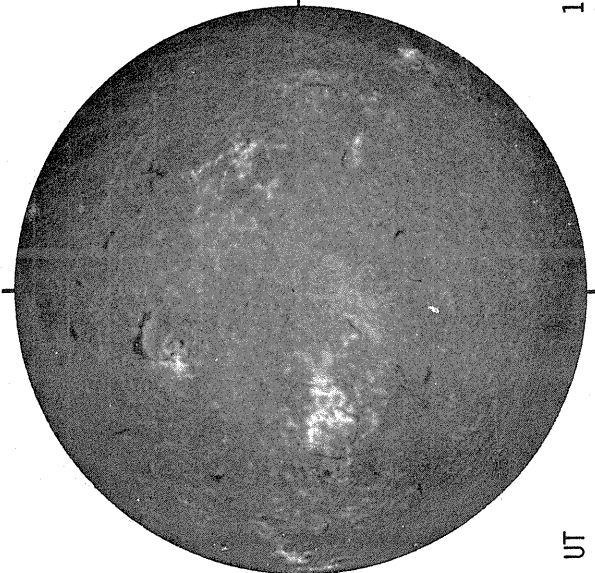
MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

Np

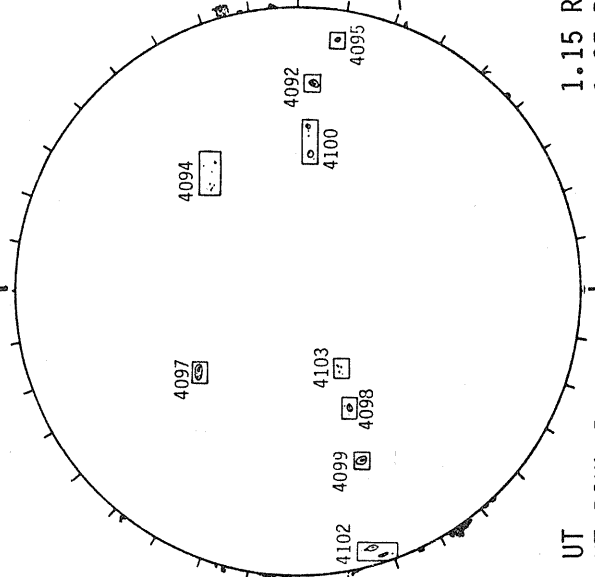


SACRAMENTO PEAK H-ALPHA



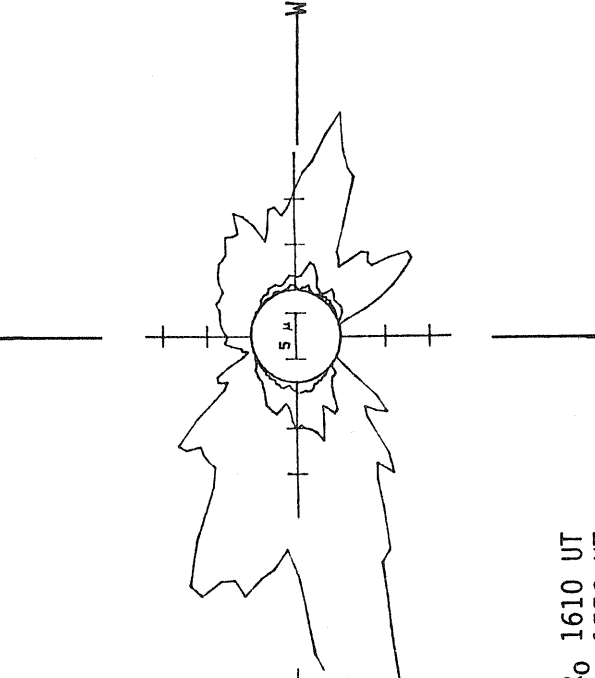
1504 UT

BOULDER SUNSPOTS



1700 UT
1720 UT BOUL Prom

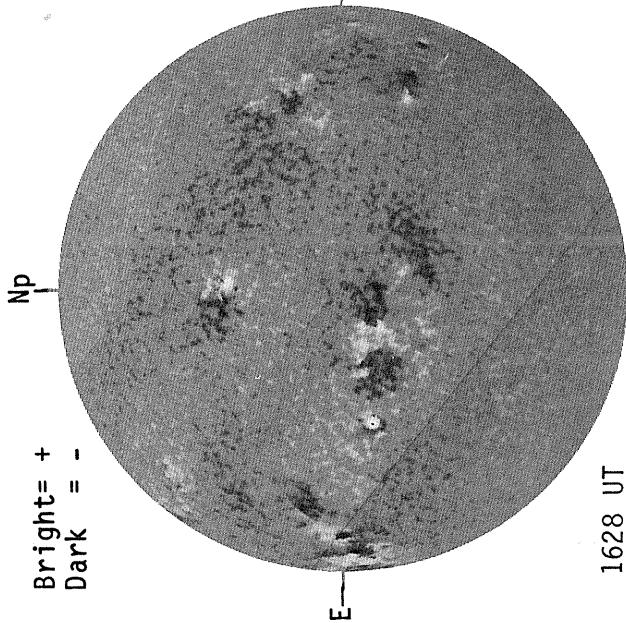
SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R₀ 1610 UT
1.35 R₀ 1556 UT
1.55 R₀ 1602 UT

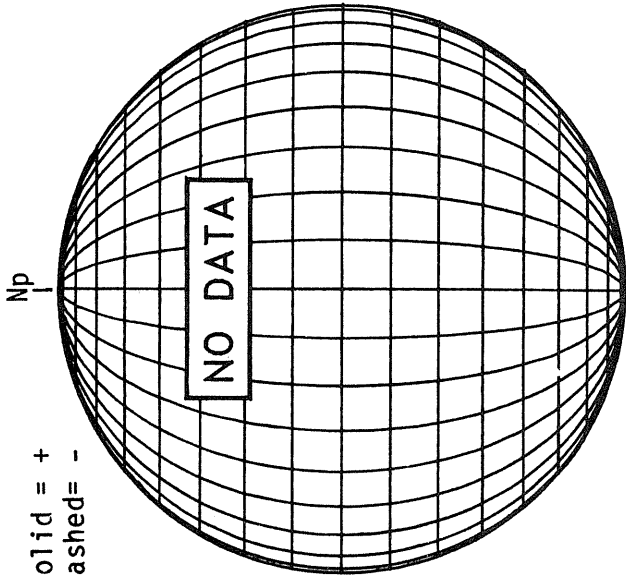
FEBRUARY 28, 1983 (P=-21.17, B₀=-7.20, L₀= 195.58)

KITT PEAK MAGNETOGRAM



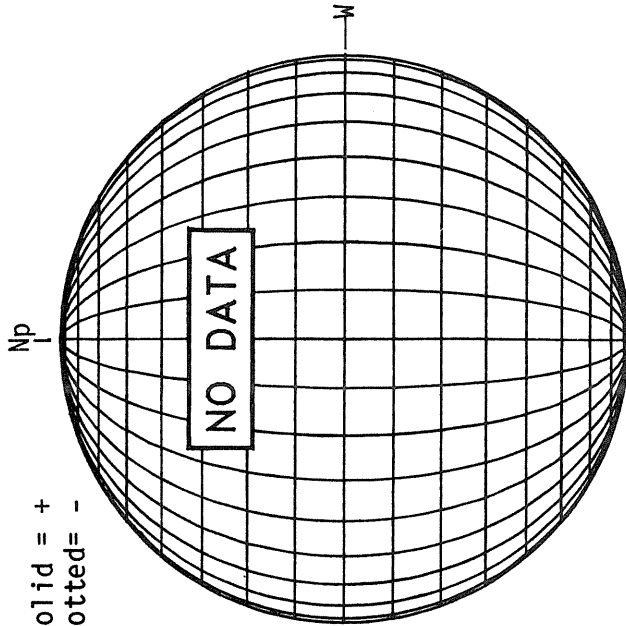
Bright = +
Dark = -

STANFORD MAGNETOGRAM



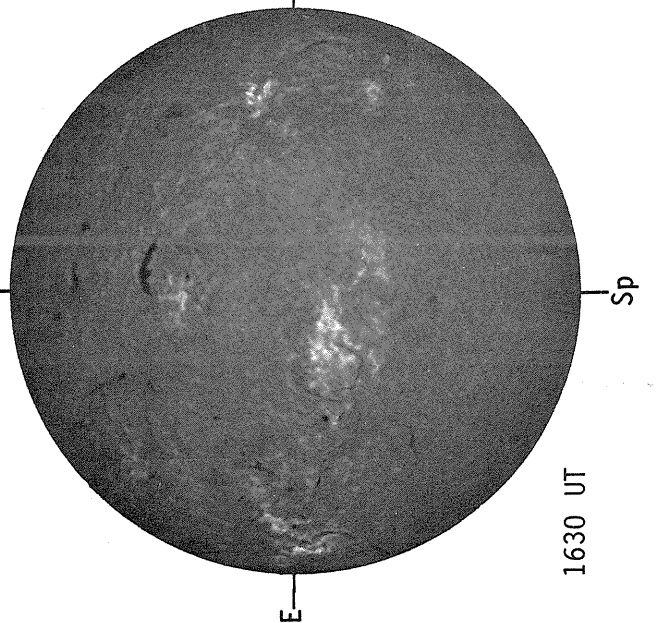
Solid = +
Dashed = -

MT. WILSON MAGNETOGRAM



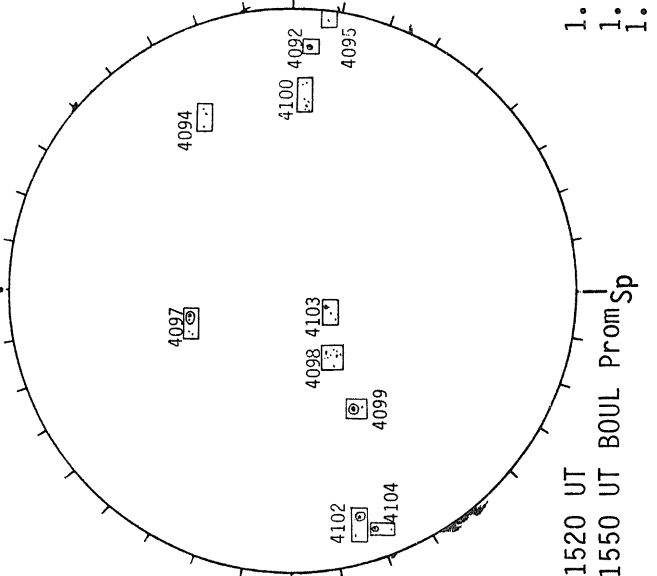
Solid = +
Dotted = -

SACRAMENTO PEAK H-ALPHA



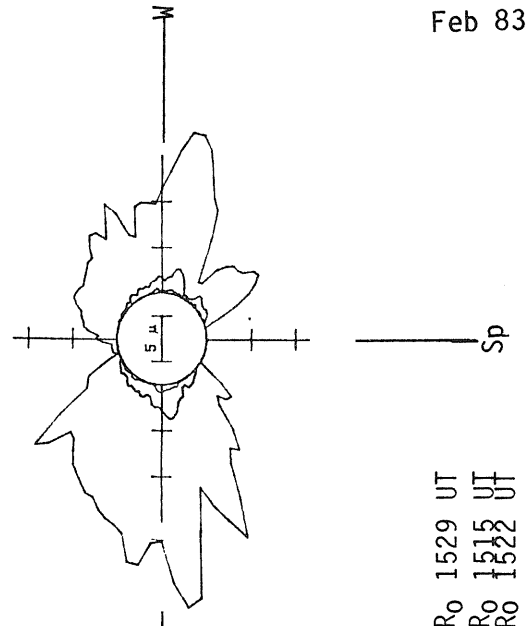
1630 UT

BOULDER SUNSPOTS



1520 UT
1550 UT BOUL Prom Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R₀ 1529 UT
1.35 R₀ 1515 UT
1.55 R₀ 1522 UT

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

FEBRUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time (UT)			Lat CMD	CMP Mo Day		Max H	Mag Class	Spot Class	Corrected Area (10-6 Heml)	Spot Count	Long. Extent (Deg)	Qual
	23556	MWIL	02	01	1600	S21 E01	02	1.7	3	(AF)					
4075		HOLL	01	26	1609	S13 E81	02	1.8		A	HSX	20	1	2	3
4075	23549	MWIL	01	26	1700	S13 E78	02	1.6	3	(AP)					
4075		PALE	01	26	1840	S14 E81	02	1.9		A	HRX	10	1	1	4
4075		LEAR	01	27	0204	S13 E77	02	1.9		B	CRO	10	2	5	3
4075		RAMY	01	27	1315	S11 E71	02	1.9		B	CAO	60	3	8	3
4075		PALE	01	27	2030	S13 E67	02	1.9		B	DSO	80	5	9	2
4075		HOLL	01	27	2200	S13 E66	02	1.9		B	DSO	130	3	7	2
4075		LEAR	01	28	0113	S14 E64	02	1.9		B	EAO	150	6	11	3
4075		RAMY	01	28	1310	S14 E57	02	1.9		B	DAO	80	6	10	3
4075		BOUL	01	28	1540	S13 E55	02	1.8		B	EAI	90	22	13	3
4075		HOLL	01	28	1550	S13 E57	02	2.0		B	DSO	140	5	9	2
4075	23549	MWIL	01	28	1930	S14 E55	02	2.0	4	B					
4075		PALE	01	28	2030	S13 E52	02	1.8		B	ESO	90	12	14	3
4075		LEAR	01	29	0011	S14 E52	02	1.9		B	DAO	100	10	12	3
4075		RAMY	01	29	1241	S15 E46	02	2.0		B	DAO	170	23	10	2
4075		HOLL	01	29	1558	S13 E43	02	1.9		B	EAO	170	18	12	4
4075	23549	MWIL	01	29	1600	S14 E43	02	1.9	4	(B)					
4075		PALE	01	29	2000	S13 E42	02	2.0		B	EAO	200	20	14	3
4075		LEAR	01	30	0014	S13 E40	02	2.0		BGD	FSI	220	20	16	3
4075	23549	MWIL	01	30	1630	S14 E31	02	2.0	4	(B)					
4075		BOUL	01	30	1645	S12 E31	02	2.0		B	DAO	70	8	7	2
4075		PALE	01	30	1906	S13 E29	02	2.0		BG	EAO	110	19	11	3
4075		LEAR	01	31	0030	S13 E26	02	2.0		B	EAO	190	19	12	2
4075		RAMY	01	31	1245	S15 E15	02	1.7		B	FAO	120	28	16	4
4075	23549	MWIL	01	31	1545	S14 E16	02	1.9	4	(B)					
4075		HOLL	01	31	1638	S13 E17	02	2.0		B	EAO	150	22	12	3
4075		PALE	01	31	1917	S15 E14	02	1.9		B	FAO	120	24	16	3
4075		LEAR	02	01	0040	S13 E14	02	2.1		B	ESO	170	10	13	3
4075		MANI	02	01	0207	S14 E13	02	2.1		B	EAO	130	21	13	3
4075	23549	MWIL	02	01	1600	S14 E04	02	2.0	4	(BY)					
4075		HOLL	02	01	1720	S14 E04	02	2.0		B	ESO	100	21	12	3
4075		PALE	02	01	1850	S14 E03	02	2.0		B	ESO	60	10	11	1
4075		MANI	02	01	2326	S14 W00	02	2.0		B	ESO	100	12	12	3
4075		LEAR	02	02	0030	S14 W01	02	1.9		B	ESO	90	10	11	3
4075		RAMY	02	02	1330	S14 W10	02	1.8		B	FAO	80	26	16	3
4075		HOLL	02	02	1546	S13 W08	02	2.1		B	DSO	70	17	9	3
4075		BOUL	02	02	1700	S11 W05	02	2.3		B	BXO	20	6	3	2
4075		PALE	02	02	1815	S13 W13	02	1.8		B	FSI	80	27	16	3
4075		MANI	02	03	0007	S14 W15	02	1.9		B	FSO	70	21	16	3
4075		LEAR	02	03	0008	S14 W14	02	1.9		B	CRO	20	18	12	3
4075		RAMY	02	03	1250	S14 W24	02	1.7		B	FAO	90	20	17	3
4075		BOUL	02	03	1610	S11 W17	02	2.4		B	BXO	10	5	4	3
4075		LEAR	02	04	0020	S13 W25	02	2.1		B	BXO	10	11	6	3
4075	23549	MWIL	02	04	1600	S13 W34	02	2.1	3	(BP)					
4075		BOUL	02	04	1630	S13 W35	02	2.0		B	CSO	30	16	5	3
4075		PALE	02	04	2005	S12 W36	02	2.1		B	CSO	40	13	7	3
4075		MANI	02	04	2341	S14 W40	02	2.0		B	CRO	40	9	15	3
4075		LEAR	02	05	0017	S13 W36	02	2.3		B	BXO	30	11	5	3
4075		RAMY	02	05	1320	S13 W43	02	2.3		B	CAO	10	4	3	3
4075		HOLL	02	05	1522	S13 W43	02	2.4		B	BXO	20	3	4	3
4075		PALE	02	05	1859	S14 W46	02	2.3		B	BXO	20	3	3	3
4075		LEAR	02	06	0003	S12 W48	02	2.4		B	BXO	10	2	3	3
4075		HOLL	02	06	1526	S13 W56	02	2.4		B	BXO	10	2	3	4
	23553	MWIL	01	30	1630	N17 E34	02	2.3	2	(AP)					
4077		RAMY	01	29	1241	S19 E56	02	2.8		B	BXO	20	7	6	2
4077		HOLL	01	29	1558	S18 E53	02	2.7		B	BXO	20	9	3	4
4077	23552	MWIL	01	29	1600	S19 E54	02	2.8	3	(B)					
4077		PALE	01	29	2000	S18 E52	02	2.8		B	CRO	60	12	5	3
4077	23552	MWIL	01	30	1630	S18 E40	02	2.7	4	(B)					
4077		BOUL	01	30	1645	S17 E40	02	2.7		B	DKO	310	15	5	2
4077		PALE	01	30	1906	S18 E39	02	2.8		B	DKI	310	14	5	3
4077		LEAR	01	31	0030	S17 E35	02	2.7		B	DKI	430	24	6	2
4077		RAMY	01	31	1245	S18 E29	02	2.7		BD	DKI	620	31	6	4
4077	23552	MWIL	01	31	1545	S18 E27	02	2.7	5	(D)					
4077		HOLL	01	31	1638	S17 E27	02	2.7		BD	DKC	590	33	7	3
4077		PALE	01	31	1917	S18 E26	02	2.8		BD	DKI	560	15	6	3
4077		LEAR	02	01	0040	S18 E23	02	2.8		BD	DKC	790	18	6	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

FEBRUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long- Extent (Deg)	Qual
4077	23552	MANI	02 01 0207	S18 E22	02 2.8			DKI	800	31	7	3
4077		MWIL	02 01 1600	S17 E14	02 2.7	5	(D)					
4077		PALE	02 01 1850	S18 E12	02 2.7		BD	DKI	900	24	7	1
4077		MANI	02 01 2326	S18 E09	02 2.7			DKC	1060	37	7	3
4077		LEAR	02 02 0030	S17 E09	02 2.7		BD	DKC	1110	22	7	3
4077		RAMY	02 02 1330	S16 E03	02 2.8		BD	DKI	900	29	6	3
4077		HOLL	02 02 1546	S17 E01	02 2.7		BD	DKC	1190	33	7	3
4077		BOUL	02 02 1700	S16 E02	02 2.9		BD	DKI	680	31	5	2
4077		PALE	02 02 1815	S17 W01	02 2.7		BD	DKI	840	35	8	3
4077		MANI	02 03 0007	S17 W04	02 2.7			DKC	1040	35	7	3
4077		LEAR	02 03 0008	S17 W04	02 2.7		BD	DKC	840	46	7	3
4077		RAMY	02 03 1250	S17 W11	02 2.7		BD	DKI	830	36	7	3
4077		BOUL	02 03 1610	S16 W12	02 2.8		BD	DHC	700	18	8	3
4077		LEAR	02 04 0020	S16 W16	02 2.8		BD	DKC	870	25	6	3
4077	23552	MWIL	02 04 1600	S17 W26	02 2.7	5	(D)					
4077		BOUL	02 04 1630	S15 W28	02 2.6		BD	DKC	780	39	8	3
4077		PALE	02 04 2005	S17 W29	02 2.6		BD	DKI	790	31	18	3
4077		MANI	02 04 2341	S17 W30	02 2.7			DKC	860	29	7	3
4077		LEAR	02 05 0017	S17 W30	02 2.7		BD	DKC	850	36	8	3
4077		RAMY	02 05 1220	S16 W37	02 2.7		BD	DKI	790	32	7	3
4077		RAMY	02 05 1320	S16 W37	02 2.7		BD	DKI	790	32	7	3
4077		HOLL	02 05 1522	S17 W38	02 2.8		BGD	DKI	710	25	8	3
4077		PALE	02 05 1859	S18 W40	02 2.7		BGD	DKI	740	33	6	3
4077		LEAR	02 06 0003	S17 W42	02 2.8		BD	DKI	790	40	9	3
4077		HOLL	02 06 1526	S17 W51	02 2.8		BD	DKI	770	16	9	4
4077		BOUL	02 06 1700	S15 W50	02 2.9		BGD	DKI	650	16	6	3
4077		RAMY	02 06 1720	S16 W51	02 2.9		BGD	DKI	760	16	8	3
4077		PALE	02 06 1844	S17 W53	02 2.7		BD	DKI	760	19	9	4
4077		MANI	02 06 2326	S17 W56	02 2.7			DKI	1040	19	9	3
4077		LEAR	02 07 0230	S17 W58	02 2.7		B	DHI	530	7	8	2
4077		RAMY	02 07 1400	S16 W65	02 2.6		BGD	DKO	470	12	8	2
4077		HOLL	02 07 1609	S17 W65	02 2.7		BD	DKO	460	15	9	4
4077		PALE	02 07 1815	S17 W66	02 2.7		BD	DKO	410	9	8	3
4077		BOUL	02 07 1935	S15 W53	02 3.8		B	DSI	260	7	5	2
4077		LEAR	02 08 0023	S17 W68	02 2.8		BG	DHO	490	8	8	3
4077		RAMY	02 08 1240	S17 W74	02 2.9		BGD	DKO	500	8	9	3
4077		HOLL	02 08 1750	S17 W68	02 3.6		B	DAO	590	6	8	2
4077		PALE	02 08 1835	S17 W79	02 2.8		B	DKO	530	4	9	3
4077	23552	MWIL	02 08 2000	S18 W80	02 2.7	3	(B)					
4077		LEAR	02 09 0029	S17 W82	02 2.8		BG	DHO	540	5	8	3
4077		RAMY	02 09 1305	S18 W88	02 2.8		A	HKX	60	1	3	3
4077	23552	HOLL	02 09 1556	S18 W88	02 3.0		A	HSX	70	2	2	4
4077		MWIL	02 09 1600	S18 W88	02 3.0	2	AP					
	23557	MWIL	02 01 1600	S13 E23	02 3.4	3	(B)					
4080	23554	LEAR	02 01 0040	N21 E55	02 5.2		B	BXO		2	4	3
4080		MANI	02 01 0207	S21 E54	02 5.2			BXO	10	2	4	3
4080		MWIL	02 01 1600	N20 E47	02 5.3	2	(B)					
4080		HOLL	02 01 1720	N21 E43	02 5.0		A	AXX	10	3	2	3
4080		HOLL	02 06 1526	N21 W24	02 4.8		A	AXX	10	2	2	4
4080		PALE	02 06 1844	N20 W28	02 4.6		A	AXX	10	1	1	4
4080	MANI	02 06 2326	N20 W30	02 4.7			AXX	10	1		3	
0001	23554	MWIL	01 31 1545	N20 E58	02 5.1	2	(AP)					
0001		HOLL	01 31 1638	N21 E58	02 5.1		A	AXX	10	2	1	3
4082	23558	RAMY	02 03 1250	S07 E29	02 5.7		A	AXX	10	2	1	3
4082		BOUL	02 03 1610	S07 E26	02 5.6		A	AXX	10	1		3
4082		LEAR	02 04 0020	S07 E22	02 5.7		B	BXO	10	3	4	3
4082		MWIL	02 04 1600	S07 E12	02 5.6	4	X					
4082		BOUL	02 04 1630	S06 E11	02 5.5		A	HRX	20	1	1	3
4082		PALE	02 04 2005	S07 E09	02 5.5		A	HRX	20	2	1	3
4082		MANI	02 04 2341	S07 E07	02 5.5			CSO	10	2	1	3
4082		LEAR	02 05 0017	S07 E07	02 5.5		A	HSX	30	2	2	3
4082		RAMY	02 05 1320	S07 W01	02 5.5		B	CAO	20	4	2	3
4082		HOLL	02 05 1522	S07 W03	02 5.4		A	AXX		1		3
4082		PALE	02 05 1859	S07 W05	02 5.4		A	AXX	10	1	1	3
4082		LEAR	02 06 0003	S07 W07	02 5.5		A	AXX	10	2	2	3
4082		HOLL	02 06 1526	S07 W13	02 5.7		B	BXO	30	7	6	4
4082		BOUL	02 06 1700	S08 W12	02 5.8		B	BXO	20	4	5	3

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FEBRUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Heml)	Spot Count	Long. Extent (Deg)	Qual
4082		RAMY	02 06 1720	S06 W14	02 5.7		B	DAO	30	6	6	3
4082		PALE	02 06 1844	S07 W15	02 5.7		B	BXO	20	7	6	4
4082		MANI	02 06 2326	S07 W18	02 5.6			BXO	20	4	6	3
4082		LEAR	02 07 0230	S07 W19	02 5.7		B	BXO	20	4	5	2
4082		RAMY	02 07 1400	S06 W26	02 5.6		B	BXO	10	2	5	2
4082		HOLL	02 07 1609	S07 W27	02 5.6		B	BXO	10	2	6	4
4082		PALE	02 07 1815	S07 W28	02 5.7		B	CRO	20	4	5	3
4082		BOUL	02 07 1935	S06 W22	02 6.2		A	AXX		1		2
4082		LEAR	02 08 0023	S07 W28	02 5.9		A	AXX		1		3
4082		RAMY	02 08 1240	S06 W36	02 5.8		A	AXX	10	1	1	3
4082		HOLL	02 08 1750	S07 W39	02 5.8		A	AXX		1		2
	23559	MWIL	02 04 1600	S13 E18	02 6.0	2	AP					
4079		RAMY	01 31 1245	S16 E78	02 6.5		A	AXX	10	1	1	4
4079	23555	MWIL	01 31 1545	S16 E76	02 6.4	2	(AP)					
4079		HOLL	01 31 1638	S15 E75	02 6.4		A	AXX	10	1	1	3
4079		PALE	01 31 1917	S15 E74	02 6.4		A	AXX	10	1	1	3
4079		LEAR	02 01 0040	S16 E70	02 6.3		A	AXX		1		3
4079		MANI	02 01 0207	S15 E70	02 6.4			AXX	10	1	1	3
4079	23555	MWIL	02 01 1600	S15 E61	02 6.3	3	(AP)					
4079		HOLL	02 01 1720	S15 E61	02 6.3		A	AXX		1		3
4079		PALE	02 01 1850	S16 E61	02 6.4		A	AXX	10	1	1	1
4079		MANI	02 01 2326	S15 E57	02 6.3			AXX	10	1		3
4079		RAMY	02 02 1330	S18 E49	02 6.3		A	AXX	20	1	1	3
4079		HOLL	02 02 1546	S16 E48	02 6.3		B	CRO	20	4	4	3
4079		BOUL	02 02 1700	S17 E47	02 6.3		A	AXX	10	1	1	2
4079		PALE	02 02 1815	S17 E47	02 6.3		B	CRO	20	2	2	3
4079		MANI	02 03 0007	S17 E44	02 6.4			CRO	30	9	5	3
4079		LEAR	02 03 0008	S17 E42	02 6.2		B	BXO	10	11	6	3
4079		RAMY	02 03 1250	S18 E35	02 6.2		B	CAO	30	12	5	3
4079		BOUL	02 03 1610	S17 E33	02 6.2		B	CRO	20	7	7	3
4079		LEAR	02 04 0020	S17 E29	02 6.2		B	CRI	50	24	7	3
4079	23555	MWIL	02 04 1600	S18 E20	02 6.2	4	B					
4079		BOUL	02 04 1630	S16 E20	02 6.2		B	DAI	210	35	8	3
4079		PALE	02 04 2005	S17 E18	02 6.2		B	DAI	400	35	9	3
4079		MANI	02 04 2341	S17 E16	02 6.2			DKI	430	24	8	3
4079		LEAR	02 05 0017	S17 E14	02 6.1		B	DSI	400	44	8	3
4079		RAMY	02 05 1320	S18 E08	02 6.2		B	DKI	480	36	8	3
4079		HOLL	02 05 1522	S17 E07	02 6.2		BG	DKO	550	20	10	3
4079		PALE	02 05 1859	S18 E06	02 6.2		BG	DKO	490	32	10	3
4079		LEAR	02 06 0003	S17 E03	02 6.2		B	EKI	630	45	11	3
4079		LEAR	02 06 0003	S17 E03	02 6.2		BG	EKI	630	45	11	3
4079		HOLL	02 06 1526	S17 W07	02 6.1		BG	EKO	690	34	12	4
4079		BOUL	02 06 1700	S17 W17	02 5.4		BG	DKI	520	22	10	3
4079		RAMY	02 06 1720	S17 W08	02 6.1		BG	DKI	680	42	10	3
4079		PALE	02 06 1844	S18 W08	02 6.2		BG	EKI	660	28	11	4
4079		MANI	02 06 2326	S18 W11	02 6.1			EKI	880	32	11	3
4079		LEAR	02 07 0230	S17 W14	02 6.0		B	EKI	700	19	12	2
4079		RAMY	02 07 1400	S18 W20	02 6.1		BG	EKO	640	17	12	2
4079		HOLL	02 07 1609	S18 W21	02 6.1		BG	EKO	670	27	12	4
4079		PALE	02 07 1815	S18 W22	02 6.1		BG	EKO	750	28	12	3
4079		BOUL	02 07 1935	S16 W18	02 6.4		B	DHO	610	11	10	2
4079		LEAR	02 08 0023	S19 W25	02 6.1		B	EKO	770	16	12	3
4079		RAMY	02 08 1240	S17 W31	02 6.2		BGD	EKO	570	24	12	3
4079		HOLL	02 08 1750	S19 W34	02 6.1		B	EKO	630	17	13	2
4079		PALE	02 08 1835	S18 W34	02 6.2		B	EKO	630	20	13	3
4079	23555	MWIL	02 08 2000	S18 W35	02 6.2	5	(B)					
4079		LEAR	02 09 0029	S18 W38	02 6.1		B	EKO	690	19	12	3
4079		RAMY	02 09 1305	S18 W45	02 6.1		BD	EKO	560	10	13	3
4079		HOLL	02 09 1556	S18 W46	02 6.2		B	ESO	640	15	12	4
4079	23555	MWIL	02 09 1600	S19 W46	02 6.2	5	(B)					
4079		PALE	02 09 1915	S19 W48	02 6.1		B	EKO	600	10	12	3
4079		BOUL	02 09 1935	S18 W45	02 6.4		B	EHO	300	6	11	2
4079		RAMY	02 10 1319	S19 W59	02 6.0		B	EKO	650	14	12	2
4079		HOLL	02 10 1520	S19 W59	02 6.1		B	ESO	630	13	12	3
4079		BOUL	02 10 1600	S17 W58	02 6.3		B	DSO	280	9	10	2
4079	23555	MWIL	02 10 1730	S19 W60	02 6.1	5	(B)					
4079		PALE	02 10 1910	S18 W62	02 6.1		B	EAO	300	9	13	2
4079		LEAR	02 11 0013	S18 W65	02 6.1		B	ESO	520	10	12	3
4079		RAMY	02 11 1510	S18 W72	02 6.1		B	EKO	390	9	12	1

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Heml)	Spot Count	Long. Extent (Deg)	Qual
4079		BOUL	02 11 1520	S18 W71	02 6.2		B	ERO	300	9	14	3
4079		HOLL	02 11 1543	S19 W71	02 6.2		B	EHO	310	4	12	2
4079	23555	MWIL	02 11 1645	S19 W72	02 6.2	4	(B)					
4079		PALE	02 11 1808	S18 W74	02 6.1		B	EAO	310	8	12	5
4079		LEAR	02 12 0012	S18 W77	02 6.1		B	ESO	350	7	12	4
4079		MANI	02 12 0132	S18 W78	02 6.1			EKO	180	4	12	3
4079		RAMY	02 12 1430	S19 W80	02 6.5		B	CAO	30	2	2	1
4079		HOLL	02 12 1605	S19 W81	02 6.5		B	CSO	50	3	4	4
4079		BOUL	02 12 1640	S18 W85	02 6.2		A	HHX	60	1	3	2
4079	23555	MWIL	02 12 1700	S19 W85	02 6.2	3	(AF)					
4079		PALE	02 12 1828	S20 W88	02 6.0		B	CSO	50	2	3	3
4079		LEAR	02 13 0025	S18 W82	02 6.8		A	HXX	60	1	1	3
4084		HOLL	02 08 1750	S13 W27	02 6.7		A	AXX		2	2	2
4084		PALE	02 08 1835	S13 W27	02 6.7		A	AXX		1		3
4084	23561	MWIL	02 08 2000	S13 W27	02 6.8	3	(AP)					
4084		HOLL	02 09 1556	S12 W38	02 6.8		A	AXX		1		4
4081		MANI	02 03 0007	S09 E58	02 7.4			AXX	10	1	1	3
4081		LEAR	02 03 0008	S09 E55	02 7.1		A	AXX		1		3
4081		RAMY	02 03 1250	S10 E47	02 7.1		B	DAO	30	2	4	3
4081		BOUL	02 03 1610	S09 E43	02 6.9		B	CRO	20	2	5	3
4081		LEAR	02 04 0020	S10 E40	02 7.0		B	DRO	30	5	4	3
4081	23560	MWIL	02 04 1600	S10 E31	02 7.0	4	B					
4081		BOUL	02 04 1630	S10 E30	02 6.9		B	DSO	40	2	6	3
4081		PALE	02 04 2005	S10 E28	02 6.9		B	DRO	40	6	6	3
4081		MANI	02 04 2341	S09 E27	02 7.0			DRO	30	6	4	3
4081		LEAR	02 05 0017	S10 E25	02 6.9		B	DSO	50	7	6	3
4081		RAMY	02 05 1320	S10 E18	02 6.9		B	DAO	30	6	6	3
4081		HOLL	02 05 1522	S09 E17	02 6.9		B	BXO	20	5	6	3
4081		PALE	02 05 1859	S10 E15	02 6.9		B	BXO	20	3	5	3
4081		LEAR	02 06 0003	S10 E11	02 6.8		B	CSO	20	4	5	3
4081		HOLL	02 06 1526	S09 E06	02 7.1		B	BXO	10	2	3	4
4081		BOUL	02 06 1700	S10 E06	02 7.2		A	AXX	10	1	1	3
4081		RAMY	02 06 1720	S08 E05	02 7.1		B	CAO	20	5	5	3
4081		PALE	02 06 1844	S08 E04	02 7.1		B	CRO	20	5	3	4
4081		MANI	02 06 2326	S10 E02	02 7.1			BXO	10	4	5	3
4081		LEAR	02 07 0230	S10 W01	02 7.0		B	BXO	30	8	7	2
4081		RAMY	02 07 1400	S11 W09	02 6.9		B	BXO	10	3	3	2
4081		HOLL	02 07 1609	S09 W08	02 7.1		B	BXO	10	3	7	4
4081		PALE	02 07 1815	S10 W09	02 7.1		B	CRO	40	9	9	3
4081		BOUL	02 07 1935	S08 W07	02 7.3		B	CSO	30	12	9	2
4081		LEAR	02 08 0023	S11 W12	02 7.1		B	BXO	40	9	10	3
4081		RAMY	02 08 1240	S08 W15	02 7.4		B	CAO	40	9	3	3
4081		HOLL	02 08 1750	S09 W19	02 7.3		B	CRO	30	7	3	2
4081		PALE	02 08 1835	S09 W19	02 7.3		B	DRO	40	7	3	3
4081	23560	MWIL	02 08 2000	S09 W21	02 7.3	3	(BP)					
4081		LEAR	02 09 0029	S08 W22	02 7.4		B	CSO	40	6	6	3
4081		RAMY	02 09 1305	S08 W31	02 7.2		B	CAO	20	2	2	3
4081		HOLL	02 09 1556	S09 W34	02 7.1		B	BXO	10	4	3	4
4081	23560	MWIL	02 09 1600	S09 W32	02 7.3	3	(BP)					
4081		PALE	02 09 1915	S08 W34	02 7.3		B	BXO	20	3	4	3
4081		BOUL	02 09 1935	S07 W31	02 7.5		B	BXO	20	2	3	2
		MANI	02 06 2326	S17 E02	02 7.1			AXX	10	1	1	3
0002		HOLL	02 08 1750	S14 W04	02 8.4		A	AXX	10	2	2	2
0002		PALE	02 08 1835	S12 W04	02 8.5		A	AXX	20	3	2	3
0002	23562	MWIL	02 08 2000	S12 W06	02 8.4	2	(AF)					
		HOLL	02 07 1609	N11 E13	02 8.7		A	AXX		1		4
0003		HOLL	02 09 1556	S04 W11	02 8.8		A	AXX		1		4
0003	23565	MWIL	02 09 1600	S04 W10	02 8.9	2	(AF)					
0003		PALE	02 09 1915	S04 W12	02 8.9		A	AXX		1		3
4089		MANI	02 15 0126	N16 W32	02 12.6			AXX	10	1		3
4089		RAMY	02 15 1315	N17 W38	02 12.7		A	HAX	30	1	1	3
4089		HOLL	02 15 1630	N16 W41	02 12.6		A	AXX		1		3
4089	23566	MWIL	02 15 1700	N16 W40	02 12.7	3	(B)					
4089		PALE	02 15 1850	N16 W42	02 12.6		A	AXX		1		3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time (UT)		Lat CMD	CMP Mo Day		Max H	Mag Class	Spot Class	Corrected Area (10-6 Hem1)	Spot Count	Long. Extent (Deg)	Qual
4089		MANI	02	15 2349	N16 W46	02	12.5			AXX	10	1		3
4089		LEAR	02	16 0010	N14 W45	02	12.6		A	AXX	10	1		3
4083		HOLL	02	07 1609	S17 E78	02	13.6		A	AXX		1		4
4083		LEAR	02	08 0023	S17 E74	02	13.6		A	AXX		1		3
4083		RAMY	02	08 1240	S17 E69	02	13.8		A	AXX	30	1	1	3
4083		HOLL	02	08 1750	S17 E67	02	13.8		A	AXX		1		2
4083		PALE	02	08 1835	S17 E66	02	13.8		A	AXX		1		3
4083	23563	MWIL	02	08 2200	S16 E62	02	13.6	1	X					
4083		LEAR	02	09 0029	S17 E61	02	13.7		A	AXX		1		3
4083		RAMY	02	09 1305	S18 E54	02	13.7		A	AXX	20	1	1	3
4086	23564	MWIL	02	08 2200	N04 E81	02	15.0	1	AP					
4086		RAMY	02	09 1305	N02 E73	02	15.0		B	BXO	30	3	3	3
4086		HOLL	02	09 1556	N04 E70	02	14.9		B	CRO	20	3	4	4
4086	23564	MWIL	02	09 1600	N03 E71	02	15.0	3	(AP)					
4086		PALE	02	09 1915	N03 E69	02	15.0		B	CRO	30	3	3	3
4086		BOUL	02	09 1935	N02 E69	02	15.0		B	BXO	10	3	1	2
4086		RAMY	02	10 1319	N03 E59	02	15.0		B	CSO	40	3	2	2
4086		HOLL	02	10 1520	N04 E57	02	14.9		B	CSO	30	3	3	3
4086		BOUL	02	10 1600	N03 E57	02	14.9		A	HSX	20	3	2	2
4086	23564	MWIL	02	10 1730	N03 E56	02	14.9	3	(B)					
4086		PALE	02	10 1910	N03 E56	02	15.0		B	CSO	30	2	2	2
4086		LEAR	02	11 0013	N03 E53	02	15.0		B	CSO	30	6	4	3
4086		RAMY	02	11 1510	N03 E44	02	14.9		A	HSX	30	1	1	1
4086		BOUL	02	11 1520	N03 E44	02	14.9		A	AXX	10	1	1	3
4086		HOLL	02	11 1543	N03 E46	02	15.1		B	BXO	10	2	4	2
4086	23564	MWIL	02	11 1645	N03 E43	02	14.9	4	(AP)					
4086		PALE	02	11 1808	N03 E44	02	15.0		B	BXO	20	3	3	5
4086		LEAR	02	12 0012	N03 E41	02	15.1		B	CRO	30	8	4	4
4086		MANI	02	12 0132	N03 E40	02	15.1			BXO	30	3	3	3
4086		RAMY	02	12 1430	N03 E32	02	15.0		A	HAX	10	1	1	1
4086		HOLL	02	12 1605	N03 E32	02	15.1		B	BXO	20	4	4	4
4086		BOUL	02	12 1640	N03 E25	02	14.6		B	BXO	10	4	5	2
4086		BOUL	02	12 1640	N03 E30	02	14.9		B	BXO	10	4	5	2
4086	23564	MWIL	02	12 1700	N03 E30	02	15.0	3	(AP)					
4086		PALE	02	12 1828	N03 E29	02	14.9		B	BXO	20	3	3	3
4086		LEAR	02	13 0025	N03 E27	02	15.0		B	BXO	10	3	3	3
4086		RAMY	02	13 1315	N03 E21	02	15.1		B	CAO	20	6	3	3
4086		HOLL	02	13 1539	N04 E18	02	15.0		B	BXO	20	5	4	4
4086	23564	MWIL	02	13 1630	N03 E17	02	15.0	3	(AP)					
4086		BOUL	02	13 1640	N03 E18	02	15.0		B	BXO	10	4	3	3
4086		PALE	02	13 1846	N03 E17	02	15.1		B	CRO	30	9	3	4
4086		MANI	02	13 2345	N03 E14	02	15.0			CRO	20	6	3	3
4086		MANI	02	14 0001	N03 E14	02	15.0		B	CRO	20	6	3	3
4086		LEAR	02	14 0021	N03 E15	02	15.1		B	BXO	30	8	3	3
4086		RAMY	02	14 1305	N03 E07	02	15.1		B	CAO	20	2	3	3
4086		HOLL	02	14 1539	N03 E05	02	15.0		A	AXX		1	1	3
4086	23564	MWIL	02	14 1630	N03 E04	02	15.0	3	(AP)					
4086		BOUL	02	14 1800	N03 E05	02	15.1		A	AXX	10	8	4	2
4086		PALE	02	14 1831	N03 E04	02	15.1		A	AXX	10	1	1	3
4086		LEAR	02	15 0023	N03 E02	02	15.2		B	BXO	10	5	3	3
4086		MANI	02	15 0126	N03 E00	02	15.1			BXO	10	3	2	3
4086		RAMY	02	15 1315	N03 W06	02	15.1		B	BXO	10	4	3	3
4086		HOLL	02	15 1630	N03 W09	02	15.0		A	AXX		1		3
4086	23564	MWIL	02	15 1700	N03 W09	02	15.0	2	(AP)					
4086		PALE	02	15 1850	N03 W10	02	15.0		A	AXX		1		3
4086		LEAR	02	16 0010	N03 W12	02	15.1		A	AXX		2	1	3
0004		HOLL	02	09 1556	S12 E75	02	15.3		A	AXX	10	2	2	4
0004		PALE	02	09 1915	S12 E75	02	15.5		A	AXX	10	2	1	3
		HOLL	02	16 1555	N08 W14	02	15.6		A	AXX		1		3
		PALE	02	19 1818	S17 W30	02	17.5		A	AXX	10	1		3
0005		PALE	02	16 2005	S12 E16	02	18.0		A	AXX		1		2
0005		LEAR	02	17 0002	S12 E14	02	18.1		A	AXX		1		3
0005	23572A	MWIL	02	21 1630	S20 W35	02	19.0	2	(AP)					
4090		MANI	02	15 0126	S18 E65	02	20.0			BXO	10	2	2	3

REGIONS OF SUNSPOT ACTIVITY
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FEBRUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Heml)	Spot Count	Long. Extent (Deg)	Qual
			Mo	Day										
4090		RAMY	02	15	1315	S17 E56	02 19.8		A	AXX	20	1	1	3
4090		HOLL	02	15	1630	S16 E55	02 19.9		B	BXO	10	2	3	3
4090	23567	MWIL	02	15	1700	S17 E55	02 19.9	2	(AP)					
4090		PALE	02	15	1850	S17 E54	02 19.9		B	BXO	10	2	3	3
4090		MANI	02	15	2349	S18 E56	02 20.3			BXO	10	3	2	3
4090		LEAR	02	16	0010	S17 E50	02 19.8		A	AXX	10	2	2	3
4090		RAMY	02	16	1318	S17 E42	02 19.7		A	AXX	10	1	1	2
4090		HOLL	02	16	1555	S16 E44	02 20.0		B	BXO	10	9	6	3
4090	23567	MWIL	02	16	1645	S16 E44	02 20.0	2	(B)					
4090		PALE	02	16	2005	S16 E43	02 20.1		A	AXX		1		2
4090		LEAR	02	17	0002	S17 E42	02 20.2		B	BXO	10	4	3	3
4090		MANI	02	17	0433	S17 E39	02 20.2			BXO	10	3	2	2
4090		BOUL	02	17	1525	S17 E30	02 19.9		B	CSO	30	8	3	3
4090		HOLL	02	17	1550	S16 E33	02 20.2		B	CRO	50	6	4	3
4090	23567	MWIL	02	17	1630	S16 E32	02 20.1	3	(B)					
4090		RAMY	02	17	1935	S17 E31	02 20.2		B	DAO	30	6	3	1
4090		MANI	02	18	0037	S16 E27	02 20.1			CRO	30	12	5	3
4090		LEAR	02	18	0152	S17 E26	02 20.1		B	DSO	80	16	5	3
4090		RAMY	02	18	1210	S17 E21	02 20.1		B	DAO	110	15	5	3
4090		HOLL	02	18	1528	S16 E19	02 20.1		B	CKO	90	11	5	3
4090	23567	MWIL	02	18	1600	S16 E19	02 20.1	3	(B)					
4090		LEAR	02	19	0019	S16 E15	02 20.2		B	BXO	80	16	6	3
4090		RAMY	02	19	1310	S16 E07	02 20.1		B	DAO	40	9	5	2
4090	23567	MWIL	02	19	1545	S16 E04	02 20.0	3	(B)					
4090		HOLL	02	19	1624	S16 E03	02 19.9		B	BXO	30	8	3	3
4090		PALE	02	19	1818	S16 E03	02 20.0		B	CRO	40	7	3	3
4090		LEAR	02	20	0022	S16 W02	02 19.9		B	BXO	40	11	3	3
4090		RAMY	02	20	1230	S16 W09	02 19.8		B	CSO	20	8	3	3
4090		HOLL	02	20	1550	S16 W10	02 19.9		B	BXO	20	5	3	3
4090		BOUL	02	20	1620	S14 W12	02 19.8		B	BXO	10	5	3	3
4090	23567	MWIL	02	20	1630	S16 W09	02 20.0	3	(B)					
4090		PALE	02	20	1808	S15 W12	02 19.8		B	CRO	30	6	3	3
4090		LEAR	02	21	0049	S17 W17	02 19.7		B	BXO	20	4	4	3
4090		RAMY	02	21	1415	S16 W24	02 19.8		A	HAX	20	1	1	3
4090		HOLL	02	21	1510	S15 W23	02 19.9		A	AXX	10	2	2	4
4090	23567	MWIL	02	21	1630	S17 W22	02 20.0	3	(B)					
4090		BOUL	02	21	1715	S15 W25	02 19.8		A	AXX	10	1		3
4090		PALE	02	21	1915	S16 W27	02 19.8		A	AXX	10	2	1	3
4091		HOLL	02	16	1555	S11 E79	02 22.6		A	HSX	20	1	1	3
4091	23568	MWIL	02	16	1645	S12 E80	02 22.7	3	(AP)					
4091		PALE	02	16	2005	S11 E79	02 22.8		A	HSX	20	1	1	2
4091		LEAR	02	17	0002	S12 E75	02 22.7		A	HSX	60	1	1	3
4091		MANI	02	17	0433	S10 E78	02 23.1			HSX		1	1	2
4091		BOUL	02	17	1525	S13 E65	02 22.6		A	HSX	40	1	1	3
4091		HOLL	02	17	1550	S12 E67	02 22.7		A	HSX	70	1	2	3
4091	23568	MWIL	02	17	1630	S12 E68	02 22.8	3	(AP)					
4091		RAMY	02	17	1935	S13 E65	02 22.7		A	HAX	50	1	1	1
4091		MANI	02	18	0037	S11 E62	02 22.7			HSX	60	1	1	3
4091		LEAR	02	18	0152	S12 E61	02 22.7		A	HSX	80	1	1	3
4091		RAMY	02	18	1210	S13 E56	02 22.7		A	HAX	50	1	1	3
4091		HOLL	02	18	1528	S13 E54	02 22.7		A	HSX	30	1	2	3
4091	23568	MWIL	02	18	1600	S12 E53	02 22.7	3	(AP)					
4091		LEAR	02	19	0019	S12 E48	02 22.6		A	HSX	60	1	2	3
4091		RAMY	02	19	1310	S13 E41	02 22.6		A	HSX	50	1	1	2
4091	23568	MWIL	02	19	1545	S12 E39	02 22.6	3	(AP)					
4091		HOLL	02	19	1624	S12 E39	02 22.6		A	HSX	50	1	2	3
4091		PALE	02	19	1818	S12 E38	02 22.6		A	HSX	30	1	1	3
4091		LEAR	02	20	0022	S12 E35	02 22.7		A	HSX	40	1	1	3
4091		RAMY	02	20	1230	S14 E28	02 22.6		A	HAX	50	1	1	3
4091		HOLL	02	20	1550	S12 E26	02 22.6		A	HSX	40	1	2	3
4091		BOUL	02	20	1620	S12 E26	02 22.6		A	HSX	50	1	2	3
4091	23568	MWIL	02	20	1630	S13 E26	02 22.7	4	(AP)					
4091		PALE	02	20	1808	S12 E26	02 22.7		A	HSX	40	1	2	3
4091		LEAR	02	21	0049	S13 E22	02 22.7		A	HSX	40	2	2	3
4091		RAMY	02	21	1415	S13 E14	02 22.7		A	HAX	20	1	1	3
4091		HOLL	02	21	1510	S12 E13	02 22.6		A	HSX	30	2	2	4
4091	23568	MWIL	02	21	1630	S13 E13	02 22.7	4	(AP)					
4091		BOUL	02	21	1715	S13 E12	02 22.6		A	HSX	20	1	1	3
4091		PALE	02	21	1915	S12 E11	02 22.6		A	HSX	20	2	1	3
4091		LEAR	02	22	0026	S12 E08	02 22.6		A	HSX	20	1	1	3

REGIONS OF SUNSPOT ACTIVITY
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FEBRUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Mo	Day	Observation Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hem1)	Spot Count	Long. Extent (Deg)	Qual
4091		BOUL	02	22	1430	S12	E01	02	22.7		A	AXX	10	1	1	3
4091		RAMY	02	22	1435	S14	E02	02	22.8		B	CSO	40	4	3	1
4091	23568	MWIL	02	22	1545	S13	E01	02	22.7	3	(AP)					
4091		HOLL	02	22	1546	S12	W00	02	22.7		A	AXX		1		3
4091		LEAR	02	23	0020	S13	W05	02	22.6		A	AXX		1		3
4091		RAMY	02	23	1248	S12	W11	02	22.7		B	BXO	20	3	2	2
4091		HOLL	02	23	1540	S13	W12	02	22.7		A	AXX		1		3
4095		MANI	02	18	0037	S11	E67	02	23.1			BXO	10	4	2	3
4095		BOUL	02	21	1715	S11	E21	02	23.3		A	AXX	10	1		3
4095		PALE	02	21	1915	S10	E20	02	23.3		A	AXX	10	1		3
4095		LEAR	02	22	0026	S09	E17	02	23.3		A	AXX		1		3
4095		LEAR	02	24	0016	S09	W12	02	23.1		A	AXX		1		3
4095		HOLL	02	27	1530	S11	W67	02	22.6		A	AXX	10	2	2	4
4095		BOUL	02	27	1700	S10	W64	02	22.9		B	BXO	30	2	1	4
4095		RAMY	02	27	1809	S12	W65	02	22.9		B	BXO	40	6	5	1
4095		PALE	02	27	1815	S12	W68	02	22.6		B	BXO	30	3	5	3
4095		LEAR	02	28	0015	S11	W67	02	23.0		B	CRO	80	4	3	3
4095		RAMY	02	28	1313	S09	W75	02	22.9		B	BXO	10	3	7	2
4095		BOUL	02	28	1520	S09	W75	02	23.0		A	AXX	10	1		3
4095		HOLL	02	28	1522	S11	W75	02	23.0		A	AXX	20	1	1	4
4095		PALE	02	28	1925	S10	W79	02	22.9		A	AXX	10	1		3
4095		LEAR	03	01	0125	S11	W85	02	22.7		A	HSX	60	1	1	3
0006	23570	MWIL	02	20	1630	S11	E38	02	23.5	3	(B)					
0006		RAMY	02	21	1415	S11	E23	02	23.3		A	AXX	10		1	3
0006		HOLL	02	21	1510	S09	E23	02	23.4		A	AXX		1		4
0006	23570	MWIL	02	21	1630	S10	E22	02	23.3	3	(AP)					
	23573	MWIL	02	21	1630	N06	E23	02	23.4	3	(AP)					
4092		BOUL	02	17	1525	S10	E80	02	23.7		A	HSX	30	1	1	3
4092		HOLL	02	17	1550	S08	E86	02	24.1		A	HSX	140	1	4	3
4092		RAMY	02	17	1935	S10	E81	02	23.9		A	HAX	110	1	2	1
4092		MANI	02	18	0037	S08	E80	02	24.0			HSX	230	1	2	3
4092		MANI	02	18	0037	S09	E80	02	24.0			AXX	10	1		3
4092		LEAR	02	18	0152	S09	E78	02	23.9		A	HSX	140	1	2	3
4092		RAMY	02	18	1210	S10	E73	02	24.0		A	HSX	140	1	2	3
4092		HOLL	02	18	1528	S08	E74	02	24.2		A	HHX	140	1	3	3
4092	23569	MWIL	02	18	1600	S09	E70	02	23.9	3	(AP)					
4092		LEAR	02	19	0019	S08	E66	02	24.0		A	HSX	140	1	2	3
4092		RAMY	02	19	1310	S10	E60	02	24.1		A	HAX	160	1	2	2
4092	23569	MWIL	02	19	1545	S09	E58	02	24.0	3	(AP)					
4092		HOLL	02	19	1624	S09	E57	02	24.0		A	HSX	170	1	2	3
4092		PALE	02	19	1818	S09	E57	02	24.0		A	HSX	110	1	2	3
4092		LEAR	02	20	0022	S08	E53	02	24.0		A	HSX	150	1	2	3
4092		RAMY	02	20	1230	S11	E46	02	24.0		A	HAX	90	1	2	3
4092		HOLL	02	20	1550	S09	E44	02	24.0		A	HSX	120	1	2	3
4092		BOUL	02	20	1620	S09	E42	02	23.8		A	HSX	130	1	2	3
4092	23569	MWIL	02	20	1630	S08	E44	02	24.0	4	(AP)					
4092		PALE	02	20	1808	S09	E43	02	24.0		A	HSX	120	1	2	3
4092		LEAR	02	21	0049	S08	E40	02	24.0		A	HSX	170	1	2	3
4092		RAMY	02	21	1415	S09	E32	02	24.0		A	HKX	110	1	2	3
4092		HOLL	02	21	1510	S09	E32	02	24.0		A	HSX	130	1	2	4
4092	23569	MWIL	02	21	1630	S08	E31	02	24.0	5	(AP)					
4092		BOUL	02	21	1715	S09	E30	02	24.0		A	HSX	110	1	2	3
4092		PALE	02	21	1915	S09	E29	02	24.0		A	HSX	100	1	2	3
4092		LEAR	02	22	0026	S08	E27	02	24.0		A	HSX	140	1	2	3
4092		BOUL	02	22	1430	S09	E18	02	24.0		A	HSX	100	1	2	3
4092		RAMY	02	22	1435	S08	E19	02	24.0		A	HSX	140	1	2	1
4092	23569	MWIL	02	22	1545	S08	E18	02	24.0	5	(AP)					
4092		HOLL	02	22	1546	S08	E17	02	23.9		A	HSX	140	1	2	3
4092		LEAR	02	23	0020	S09	E13	02	24.0		A	HSX	150	1	2	3
4092		RAMY	02	23	1248	S08	E08	02	24.1		A	HSX	100	1	2	2
4092		BOUL	02	23	1438	S08	E06	02	24.1		A	HSX	100	1	2	3
4092		HOLL	02	23	1540	S08	E06	02	24.1		A	HSX	120	1	2	3
4092		PALE	02	23	1919	S09	E03	02	24.0		A	HSX	120	1	2	4
4092		LEAR	02	24	0016	S09	E01	02	24.1		A	HSX	140	1	2	3
4092		RAMY	02	24	1345	S08	W08	02	24.0		A	HAX	140	1	2	2
4092		BOUL	02	24	1500	S08	W07	02	24.1		B	CSO	110	3	7	3
4092		PALE	02	24	1811	S09	W10	02	24.0		A	HSX	110	1	2	4

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4092		HOLL	02	24	2216	S08	W12	02	24.0		A	HSX	120	1	2	3
4092		LEAR	02	25	0027	S08	W13	02	24.0		A	HSX	120	1	2	3
4092		BOUL	02	25	1535	S08	W20	02	24.1		A	HSX	70	1	2	3
4092		HOLL	02	25	1812	S08	W22	02	24.1		A	HSX	100	1	2	4
4092		PALE	02	25	1825	S08	W22	02	24.1		A	HSX	80	1	2	4
4092		LEAR	02	26	0018	S08	W26	02	24.1		A	HSX	80	1	2	2
4092		RAMY	02	26	1310	S07	W33	02	24.1		A	HKX	90	1	3	3
4092		BOUL	02	26	1615	S08	W34	02	24.1		A	HSX	100	1	2	3
4092	23569	MWIL	02	26	1830	S08	W36	02	24.1	5	(AP)					
4092		HOLL	02	26	1830	S08	W37	02	24.0		A	HSX	110	1	2	3
4092		PALE	02	26	1901	S08	W36	02	24.1		A	HSX	90	1	2	3
4092		LEAR	02	27	0020	S08	W39	02	24.1		A	HSX	100	1	2	3
4092		HOLL	02	27	1530	S08	W48	02	24.0		A	HSX	100	1	2	4
4092		BOUL	02	27	1700	S08	W48	02	24.1		A	HSX	80	1	2	4
4092		RAMY	02	27	1809	S08	W49	02	24.1		A	HAX	60	1	2	1
4092		PALE	02	27	1815	S08	W50	02	24.0		A	HSX	90	1	2	3
4092		LEAR	02	28	0015	S08	W52	02	24.1		A	HSX	110	1	2	3
4092		RAMY	02	28	1313	S08	W60	02	24.0		A	HAX	60	1	2	2
4092		BOUL	02	28	1520	S08	W60	02	24.1		A	HSX	60	1	1	3
4092		HOLL	02	28	1522	S08	W61	02	24.1		A	HSX	120	1	2	4
4092		PALE	02	28	1925	S08	W63	02	24.1		A	HSX	70	1	1	3
4092		LEAR	03	01	0125	S08	W67	02	24.0		A	HSX	60	1	1	3
4092		RAMY	03	01	1349	S07	W74	02	24.0		A	HAX	60	1	2	2
4092		PALE	03	01	1815	S08	W77	02	24.0		A	HSX	70	1	2	4
4092		HOLL	03	01	1920	S08	W77	02	24.0		A	HSX	30	1	2	3
4092		MANI	03	02	0010	S09	W80	03	24.0			HSX	100	1	2	3
		HOLL	02	24	2216	S12	W07	02	24.4		A	AXX		1		3
		PALE	02	24	1811	S13	E05	02	25.1		A	AXX	10	1	1	4
4100		BOUL	02	25	1535	S08	W03	02	25.4		B	CRO	40	6	5	3
4100		HOLL	02	25	1812	S08	W06	02	25.3		B	BXO	40	5	4	4
4100		PALE	02	25	1825	S08	W05	02	25.4		B	BXO	40	5	5	4
4100		LEAR	02	26	0018	S08	W09	02	25.3		B	DSO	40	3	5	2
4100		RAMY	02	26	1310	S08	W17	02	25.3		B	DAO	40	4	6	3
4100		BOUL	02	26	1615	S08	W18	02	25.3		B	CRO	20	5	7	3
4100		HOLL	02	26	1830	S08	W20	02	25.3		B	CRO	40	6	6	3
4100	23574	MWIL	02	26	1830	S08	W20	02	25.3	4	(B)					
4100		PALE	02	26	1901	S08	W20	02	25.3		B	DSO	50	10	7	3
4100		LEAR	02	27	0020	S08	W23	02	25.3		B	CSO	40	8	7	3
4100		HOLL	02	27	1530	S08	W32	02	25.2		B	DSO	50	7	7	4
4100		BOUL	02	27	1700	S08	W33	02	25.2		B	DSO	80	6	7	4
4100		RAMY	02	27	1809	S08	W35	02	25.1		B	DSO	100	6	8	1
4100		PALE	02	27	1815	S08	W35	02	25.1		B	DSO	50	6	8	3
4100		LEAR	02	28	0015	S08	W38	02	25.2		B	DSO	60	12	8	3
4100		RAMY	02	28	1313	S08	W46	02	25.1		B	CSO	160	11	9	2
4100		BOUL	02	28	1520	S09	W44	02	25.3		B	CRO	30	7	8	3
4100		HOLL	02	28	1522	S08	W47	02	25.1		B	CRO	50	7	8	4
4100		PALE	02	28	1925	S08	W49	02	25.1		B	DRO	60	4	8	3
4100		LEAR	03	01	0125	S09	W54	02	25.0		B	CSO	30	4	10	3
4100		RAMY	03	01	1349	S09	W59	02	25.1		B	DAO	100	5	10	2
4100		PALE	03	01	1815	S09	W62	02	25.1		B	CRO	60	5	9	4
4100		HOLL	03	01	1920	S08	W62	02	25.2		B	BXO	10	2	8	3
4100		RAMY	03	02	1415	S08	W72	02	25.2		B	CAO	30	2	9	3
4100		BOUL	03	02	1615	S09	W74	02	25.1		B	BXO	10	3	5	2
4100		PALE	03	02	1829	S09	W76	02	25.1		B	CSO	30	4	8	4
	23575	MWIL	02	26	1830	N16	W17	02	25.5	3	(B)					
4094		HOLL	02	20	1550	N14	E68	02	25.8		A	AXX	10	1	1	3
4094		BOUL	02	20	1620	N13	E67	02	25.7		A	HRX	20	1	2	3
4094	23571	MWIL	02	20	1630	N15	E69	02	25.9	3	(AP)					
4094		PALE	02	20	1808	N15	E66	02	25.8		A	AXX	20	1	1	3
4094		LEAR	02	21	0049	N15	E64	02	25.9		A	AXX	10	2	2	3
4094		RAMY	02	21	1415	N13	E57	02	25.9		B	DAO	120	5	4	3
4094		HOLL	02	21	1510	N14	E57	02	25.9		B	DSO	80	5	4	4
4094	23571	MWIL	02	21	1630	N15	E56	02	25.9	4	(B)					
4094		BOUL	02	21	1715	N14	E54	02	25.8		B	DAO	90	5	4	3
4094		PALE	02	21	1915	N15	E54	02	25.9		B	DAO	120	7	5	3
4094		LEAR	02	22	0026	N15	E51	02	25.9		B	CAO	100	3	4	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

FEBRUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time			Lat	CMD	CMP		Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
			Mo	Day	(UT)			Mo	Day							
4094		BOUL	02	22	1430	N13	E42	02	25.8		B	DAO	80	3	5	3
4094		RAMY	02	22	1435	N16	E43	02	25.9		B	DAO	100	4	5	1
4094	23571	MWIL	02	22	1545	N14	E42	02	25.8	5	(B)					
4094		HOLL	02	22	1546	N15	E43	02	25.9		B	DAO	60	8	6	3
4094		LEAR	02	23	0020	N15	E37	02	25.8		B	DSO	80	8	5	3
4094		RAMY	02	23	1248	N14	E31	02	25.9		B	CAO	60	4	5	2
4094		BOUL	02	23	1438	N14	E27	02	25.7		B	CSO	40	4	5	3
4094		HOLL	02	23	1540	N15	E28	02	25.8		B	DSO	60	7	5	3
4094		PALE	02	23	1919	N15	E27	02	25.9		B	CAO	50	10	5	4
4094		LEAR	02	24	0016	N14	E24	02	25.8		B	DAO	110	11	6	3
4094		RAMY	02	24	1345	N15	E16	02	25.8		B	DAO	70	13	6	2
4094		BOUL	02	24	1500	N13	E15	02	25.8		B	CRI	40	13	6	3
4094		PALE	02	24	1811	N14	E13	02	25.7		B	CAI	50	14	6	4
4094		HOLL	02	24	2216	N14	E12	02	25.8		B	CSO	70	13	7	3
4094		LEAR	02	25	0027	N14	E10	02	25.8		B	DSO	60	10	6	3
4094		BOUL	02	25	1535	N13	E02	02	25.8		B	CRI	30	10	5	3
4094		HOLL	02	25	1812	N13	W01	02	25.7		B	CSO	50	6	5	4
4094		PALE	02	25	1825	N13	E01	02	25.8		B	CRO	40	10	6	4
4094		LEAR	02	26	0018	N13	W03	02	25.8		B	DSO	60	9	7	2
4094		RAMY	02	26	1310	N13	W09	02	25.9		B	DAO	60	15	8	3
4094		BOUL	02	26	1615	N13	W11	02	25.8		B	CRI	40	12	12	3
4094		HOLL	02	26	1830	N13	W13	02	25.8		B	CSO	60	10	7	3
4094	23571	MWIL	02	26	1830	N13	W14	02	25.7	4	(B)					
4094		PALE	02	26	1901	N14	W14	02	25.7		B	CSO	60	13	7	3
4094		LEAR	02	27	0020	N13	W16	02	25.8		B	CSO	40	11	8	3
4094		HOLL	02	27	1530	N13	W27	02	25.6		B	BXO	50	10	8	4
4094		BOUL	02	27	1700	N11	W25	02	25.8		B	BXO	40	11	8	4
4094		RAMY	02	27	1809	N13	W28	02	25.6		B	BXO	60	10	4	1
4094		PALE	02	27	1815	N13	W28	02	25.6		B	BXO	40	8	8	3
4094		LEAR	02	28	0015	N13	W32	02	25.6		B	CSO	40	7	5	3
4094		RAMY	02	28	1313	N13	W40	02	25.5		B	CAO	60	5	6	2
4094		BOUL	02	28	1520	N12	W38	02	25.8		B	BXO	20	3	4	3
4094		HOLL	02	28	1522	N12	W41	02	25.5		B	BXO	20	4	5	4
4094		PALE	02	28	1925	N12	W42	02	25.6		B	BXO	20	4	6	3
4094		LEAR	03	01	0125	N12	W47	02	25.5		B	BXO	20	4	5	3
4094		RAMY	03	01	1349	N12	W56	02	25.4		A	AXX	10	1	1	2
4094		PALE	03	01	1815	N12	W59	02	25.3		A	AXX	10	1	1	4
4094		MANI	03	02	0010	N13	W60	02	25.5			AXX	10	1		3
4096		LEAR	02	22	0026	N22	E56	02	26.3		A	AXX		1		3
4096	23572B	MWIL	02	22	1545	N22	E46	02	26.2	3	(B)					
4096		HOLL	02	22	1546	N22	E47	02	26.3		B	BXO	10	3	4	3
4096		LEAR	02	23	0020	N21	E39	02	26.0		A	AXX		1		3
4101		HOLL	02	25	1812	N16	E07	02	26.3		A	AXX	10	3	2	4
4101		PALE	02	25	1825	N16	E07	02	26.3		B	BXO	20	3	3	4
4101		LEAR	02	26	0018	N17	E03	02	26.2		B	BXO	10	3	3	2
4101		RAMY	02	26	1310	N16	W03	02	26.3		A	AXX	10	1	1	3
4101		HOLL	02	26	1830	N16	W06	02	26.3		A	AXX		1		3
4101		PALE	02	26	1901	N16	W06	02	26.3		A	AXX	10	2	1	3
4101		LEAR	02	27	0020	N16	W08	02	26.4		A	AXX		1		3
	23576	MWIL	02	26	1830	S21	E12	02	27.7	2	(AF)					
0007		HOLL	02	25	1812	S14	E41	02	28.9		A	AXX	10	1		4
0007	23577	MWIL	02	26	1830	S13	E27	02	28.8	2	(AP)					
0007		HOLL	02	26	1830	S14	E28	02	28.9		A	AXX		1		3

S U D D E N I O N O S P H E R I C D I S T U R B A N C E S

February 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type					Known Flare	NOAA/SESC Region
						SWF	SEA	SPA	LF-SPA	SES		
01	0212	0220	0235	1-	3			1	1		0214	No data
01	0724	0752	0902	1-	1			1			0727	No data
01	1059	1102	1115	1-	1				1		1056	X-ray
01	1857	1915	2000	1	3					6	NF	
02	1052	1100	1150	1-	1			1			1047	No data
03	0125	0130	0140U	1-	3			1	1		0126	4077
03	0204	0208	0214U	1-	3			1	1		0202	X-ray
03	0300	0305	0313	1-	3			1	1		0302	4077
03	0546	0610	1002	3+	5	2		1	1	2	0544	4077
03	1830	1839	1930	1	3				1	4	1839E	4077
04	0132	0136	0142U	1-	3			1	1		0133	4077
04	0230		0300	1-	1						NF	
04	0650		0700	1-	1			1			0701	X-ray
04	1752	1807	1840	1	3	1				9	*	
04	1845	1852	1900	1-	3					3	1852	X-ray
04	1907	1915	2030	2	3	1				1	*	
04	2242	2244	2306	1-	1			1			2240	X-ray
05	0035	0044	0122	1-	3			1	1		0032	4079
05	0436	0444	0545	1-	3			1	2		0435	No data
05	0700	0703	0743	1-	5			1		2	0700	4075
05	0730		0800	1-	1			1			0729	4077
05	0932	0940	1035	1+	5			2	1	2	0930	4077
05	1313	1317	1330	1-	1					1	NF	
05	1339	1348	1410	2	3	1	2	1	1	2	NF	
05	1740	1752	1900	1	3					12	1746	4079
05	1911	1917	1935	1-	1					1	1911	X-ray
06	0513	0522	0612	1-	3			1	2	1	0516	No data
06	0619	0646	0730	1-	1			1			NF	
06	1345	1401	1515	1	3					2	*	
07	0430		0500	1-	1			1			NF	
07	1508	1526	1630	2+	1	1					*	
08	1750	1803	1845	1-	3					6	NF	
08	2239	2346	0216	1-	1			1			2241	4077
09	0527	0615	0730	1	1					1	NF	
09	0714	0724	0752	1-	1			1			*	
09	1736	1750	1815	1-	3					3	*	
09	2011	2020	2300	2+	3					7	*	
09	2217	2229	2346	1-	1			1			2215	X-ray
10	1727	1743	1940	1+	3	1				5	NF	
10	2203	2221	2300	1	1	1					NF	
10	2232	2245	2330	1+	3					3	NF	
11	0804	0815	0845	1-	1					1	NF	
11	1435	1458	1515	1	3					2	1440	4081
11	1730	1736	1800	1-	1	1					NF	
11	1816	1832	2000	2	3	1				2	NF	
11	2029	2111	2145	1+	3					2	NF	
11	2115	2145	2245	1+	1	1					NF	
12	0716	0726	0810	1-	3			1	1		0712	X-ray
12	1310	1315	1414	1	1			1			*	
12	1843	1855	1930	1	3					2	NF	
12	2030	2050	2200	2	1	1					2050E	No data
13	2115	2128	2200	1-	3	1				5	*	
14	1207	1230	1348	1-	1			1			NF	

SUDDEN IONOSPHERIC DISTURBANCES

February 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type					Known Flare	NOAA/SESC Region
						SWF	SEA	SPA	LF-SPA	SES		
15	1823	1900	1945	1+	1	1					NF	
16	0513	0521	0554	1-	1			1			*	
17	0253	0300	0310	1-	1				1		NF	
17	1810	1823	1915	1+	3					4	NF	
19	0505	0508	0519	1-	1				1		NF	
19	1306	1326	1400	1	3					2	NF	
20	2147	2200	2217	1-	1			1			NF	
21	1929	1936	2015	1-	1	1					*	
22	0308	0312	0323U	1-	1				1		NF	
22	1927	1938	2018	2	5	2		1		11	1920	X-ray
22	1959	2003	2004	1-	1	1					NF	
23	1600	1615	1700	1+	3					3	NF	
23	1845	1900	1945	1-	1	1					NF	
23	2105	2112	2142	1-	3			1		3	2103	4098
24	0117	0122	0153	1-	1			1		6	NF	
24	1846	1858	1915	1-	3						1845	4098
25	0237	0250	0326	1-	3			1	1		0235	X-ray
25	1509	1526	1600	1	3					2	*	
25	1629	1641	1655	2	1	1					*	
25	2031	2045	2115	1-	3	1				6	2029	4098
26	0624	0631	0712	1-	3			1	1		0619	X-ray
27	0325	0329	0340U	1-	1				1		0330	4098
27	0452	0456	0502D	1-	1				1		NF	
27	0640	0644	0652D	1-	3			1	1		0638	No data
27	2154	2207	2245	1-	3	1		1		2	2152	4102
28	0000	0004	0044	1-	1			1			NF	
28	2250	2301	2342	1-	3			1		1	2246	X-ray
28	2312	2320	2350	1-	1			1			NF	

* = No Flare Patrol
 NF = No Flare Reported
 X-ray = Event observed only at X-ray wavelengths

OBSERVATORIES REPORTING FOR FEBRUARY 1983*

Darmstadt, GFR (DA)	SWF	Louisville, Kentucky, USA (A26)	SES
Durham, North Carolina, USA (A54)	SES	Maul, Hawaii, USA (M1)	SWF
Edenvale, South Africa (A52)	SES	Mayfield Village, Ohio, (USA) (A28)	SES
Frenchtown, Montana, USA (A56)	SES	Missoula, Montana, USA (A31)	SES, SWF
Hiraiso, Japan (H1)	SWF	Panska Ves, Czechoslovakia (PU)	SEA, SWF
Hobart, Tasmania, Australia (TA)	SEA	Paterson, New Jersey, USA (A46)	SES
Houston, Texas, USA (A50)	SES	Portage, Michigan, USA (A51)	SES
Huancayo, Peru (HU)	SWF	Travares, Florida, USA (A49)	SES
Inubo, Japan (IN)	SPA	Tucson, Arizona, USA (A9)	SES
Jullusruh, GDR (JU)	SWF	Upice, Czechoslovakia (UI)	SEA
Kasuga, Japan (KA)	SPA	Valley Cottage, New York, USA (A01)	SES
Kuhlungsborn, GDR (KU)	SPA, SEA	Vsetin, Czechoslovakia (VS)	SEA
Latrobe, Pennsylvania, USA (A19)	SES	Walla Walla, Washington, (USA) (A55)	SES
Lintong, China (LT)	SPA		

*Observations are not necessarily continuous for each reporting station.

SIDs by NOAA/SESC REGION

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Region Number																													
4075					1																								
4077			4	1	2			1																					
4079					2																								
4081											1																		
4098																							1	1	1			1	
4102																													1
X-Ray	1		1	3	1				1			1											1			1	1		1
No Flare	1			1	2	1	1	1	1	3	5	1		1	1		2		2	1			2	2	1			1	2
No Flare Patrol				2		1	1		3			1	1			1						1				2			
No Data	2	1			1	1						1																	
Event Totals	4	1	5	7	9	3	2	2	5	3	6	4	1	1	1	1	2		2	1	1	3	3	2	4	1	4	3	

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

79
Feb 83

FEBRUARY 1983

Day	Observation		Sta	Decimetric Band			Metric Band			Dekametric Band			Spectral Type			
	Start (UT)	End (UT)		Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)				
04	2058	2400	CULG				2058.5	2400.0	1				IS,C,DC			
			CULG				2059.0	2400.0	1	2104.5	2358.5	2	IIIS			
			CULG				2102.5	2329.5	2				IIIN			
			CULG	2159.5	2358.5	1								IN		
			LEAR				2224.0	1051.0	1					CONT		
05	0000	0746	CULG				0001.5	0735.0	1	0001.5	0557.0	1	IIIN			
			CULG	0006.0	0215.0	1	0000.0	0746.0	1				IS,C,DC			
			CULG	0215.0	0742.0	1							IN			
			LEAR				0558.0	0600.0	2				III			
			CULG	0558.5	0559.0	1	0558.5	0600.0	3	0558.5	0559.5	2	IIIG			
			LEAR				0611.3	0612.0	2				III			
			CULG				0611.5	0612.0	3	0611.5	0612.0	3	IIIG			
			LEAR				0701.3	0703.0	2				III			
			CULG				0701.5	0703.0	3	0701.5	0703.0	2	IIIG,V			
	0723	1550		CULG				0712.0	0712.5	3	0712.0	0712.5	2	IIIB,V		
				WEIS				0727.0	1521.0	3				IS,DC		
				WEIS				0904.0	1537.0	2				IIIN		
				WEIS				0931.7	0935.6	3				IIIGG		
				LEAR				0931.8	0934.5	1				III		
				WEIS				0957.0	1041.0	2				III		
				WEIS				1027.7	1028.3	2				IIIG		
	2047	2400		WEIS				1207.0	1207.0	3				IIIG		
				WEIS				1521.0	1550.0	2				I		
				CULG				2047.0	2400.0	1				IS,DC		
CULG							2048.0	2050.0	2				IIIG			
CULG				2132.5	2400.0	1							IN			
06	0000	0746	CULG				0000.0	0746.0	1				IS,DC			
			CULG				0020.0	0215.0	2				IN			
			CULG	0042.0	0140.0	1							IN			
			LEAR				0418.8	0423.0	1				III			
			CULG				0419.0	0425.0	2				DC			
			CULG				0419.5	0424.0	1				IIIGG			
	0722	1552		CULG				0541.5	0746.0	2				IS		
				LEAR				0619.0	0746.0	1				CONT		
				WEIS				0646.0	1051.0	1				IIIB		
				WEIS				1307.0	1307.2	1				IIIB		
				WEIS				1535.7	1535.8	1				IIIB		
				2056	2400		CULG	2131.0	2347.5	1						IS
							CULG	2155.5	2156.0	2	2155.5	2156.5	2			
07	0000	0746	CULG	0111.0	0157.5	1							IS			
			LEAR				0211.6	0212.3	1				III			
			LEAR				0319.8	0320.1	1				III			
			LEAR				0527.3	0527.6	1				III			
			0720	1021	1553	WEIS				0823.0	1313.0	1				IN
						WEIS				1138.1	1138.2	1				IIIB
	WEIS							1425.2	1425.8	2				IIIG		
	2046	2400		WEIS				1431.4	1431.6	1				IIIB		
				WEIS				1500.3	1501.7	1				IIIG,U		
				CULG	2046.0	2400.0	1	2046.0	2220.0	1				IS,DC		
				CULG				2220.0	2359.0	1				IN		
	08	0000	0746	CULG	0000.0	0145.0	1							IS		
				CULG				0006.0	0247.5	1				IN		
LEAR							0038.1	0038.3	1				III			
CULG							0116.0	0122.0	1				IIIN			
LEAR							0117.6	0124.1	1				III			
CULG				0145.0	0450.0	2							IS			
LEAR							0302.8	0303.1	1				III			
LEAR							0341.6	0341.8	1				III			
CULG							0342.0		2				IIIB			
LEAR							0434.8	0437.5	1				III			
CULG				0450.0	0741.0	1							IN			
LEAR							0500.1	0500.5	1				III			
LEAR							0516.3	0516.5	1				III			
LEAR							0520.8	0521.0	1				III			
CULG				0521.0		2				IIIG						
LEAR				0616.3	0616.5	1				III						
LEAR				0751.3	0752.5	1				III						

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

FEBRUARY 1983

Day	Observation		Sta	Decimetric Band			Metric Band			Dekametric Band			Spectral Type
	Start (UT)	End (UT)		Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	
13	2046	2400	CULG										
14	0000	0725	CULG										
	0709	1053	WEIS										
			LEAR				0809.0	0810.6	1			III	
	0740	1550	BLEN				0910.0	0935.0	1			I	
	1159	1604	WEIS										
	2046	2400	CULG										
15	0000	0746	CULG										
	0711	1605	WEIS										
	0737	1550	BLEN										
	2046	2400	CULG										
16	0000	0746	CULG										
	0706	1312	WEIS										
	0737	1220	BLEN										
	1318	1607	WEIS										
	2046	2400	CULG										
17	0000	0746	CULG										
	0703	1608	WEIS										
	2046	2400	CULG										
18	0000	0745	CULG										
	0702	1504	WEIS										
	1511	1611	WEIS										
	2046	2400	CULG										
19	0000	0730	CULG										
	0659	1615	WEIS										
	2047	2400	CULG										
20			LEAR				0220.0	0220.1	1			III	
			LEAR				0318.6	0319.3	1			V	
	0000	0745	CULG				0319.0		1			III	
	0655	1525	WEIS									III	
	2046	2400	CULG										
21			LEAR				0615.3	0621.6	1			III	
	0000	0745	CULG				0615.5	0616.5	1			III	
			CULG				0622.5		2			III	
			CULG				0622.5	0625.5	1			III	
			LEAR				0622.6	0625.8	2			III	
			LEAR				0956.6	0957.1	1			III	
	0656	1616	WEIS				0956.7	0957.1	2			III	
	2046	2400	CULG										
22	0000	0745	CULG										
	0700	1617	WEIS										
	2045	2400	CULG										
23			LEAR				0303.8	0304.1	1			III	
	0000	0745	CULG				0520.5		2			III	
	0654	0806	WEIS										
	0810	1618	WEIS										
	1343	1556	BLEN										
	2055	2400	CULG				2316.0	2328.0	3			II	
			LEAR				2317.8	2328.1	1			II	
24			LEAR				0253.3	0254.6	1			III	
	0000	0745	CULG				0253.5	0254.5	2			III	
			CULG				0415.5		1			III	
			LEAR				0642.6	0644.1	1			III	
			CULG				0643.0		2			III	
			CULG				0645.5	0646.0	1			III	
			CULG				0648.5	0701.5	3			II	
			LEAR				0649.8	0702.3	1			II	
	0732	1221	BLEN										
	0653	1621	WEIS				1003.2	1005.9	2			III	
			LEAR				1003.6	1005.6	1			V	

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

FEBRUARY 1983

Day	Observation		Sta	Decimetric Band			Metric Band			Dekametric Band			Spectral Type
	Start (UT)	End (UT)		Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	
24			WEIS				1134.0	1134.6	2				IIIB,U
			WEIS				1435.3	1440.0	2				IIIG
			SGMR				1437.1	1439.8	1				V
	2057	2400	CULG				2116.5	2154.0	1				IS
			CULG				2146.0	2146.5	2				IIIB,V
			CULG				2151.0	2152.5	2				IIIB,V
			CULG				2201.0		1				IIIB
25	0649	0925	WEIS										
	0000	0745	CULG				0654.5	0655.5	3				IIIB,V
			LEAR				0654.6	0656.3	1				V
			CULG				0704.5	0712.0	1				II
			LEAR				0707.0	0714.1	1				II
			CULG				0708.0	0708.5	1				IIIG
	0930	1311	WEIS				1231.8	1232.1	3				IIIB
	1401	1622	WEIS										
	2045	2400	CULG				2045.0	2055.5	3				II
			SGMR				2045.3	2050.8	1				V
		CULG	2055.0	2211.0								IV	
		CULG				2109.5	2139.0	1				IV	
26	0000	0745	CULG				0052.0		1				IIIB
			CULG				0635.0	0636.5	1				IIIG
			LEAR				0635.3	0636.6	1				III
	0646	1624	WEIS										
	2241	2400	CULG										
27	0000	0744	CULG				0536.5		1				IIIB
	0645	1103	WEIS										
	1158	1626	WEIS				1324.3	1326.3	1				IIIG
			WEIS				1412.0	1626.0	2				IN
	2045	2400	CULG	2201.0	2202.0	1							IS
			LEAR				2357.3	2357.5	1				III
		CULG				2357.5		1				IIIB	
28	0000	0744	CULG										
	0642	1627	WEIS				1241.5	1241.9	2				DCIM
	1521	1605	BLEN	1524.8	1527.2	3							IIIGG
			WEIS				1526.4	1526.9	2				DCIM
	2045	2400	CULG	2045.0	2400.0	1	2045.0	2400.0	1				IS,DC,C

The symbols used under the column heading SPECTRAL TYPE have the following definitions:

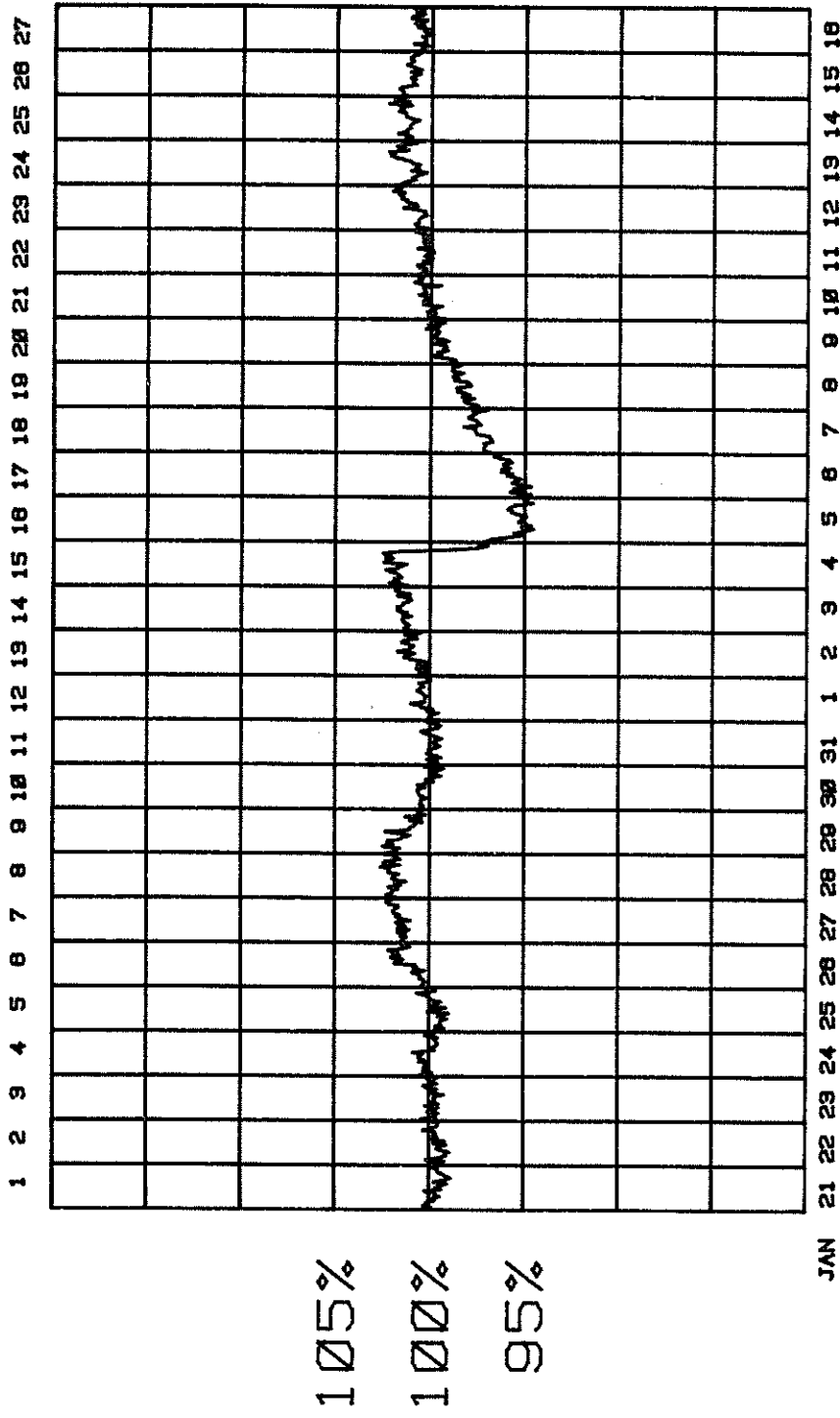
- | | |
|--|-------------------------------|
| B = Single burst | RS = Reverse slope burst |
| G = Small group (< 10) of bursts | DP = Drifting pairs |
| GG = Large group (> 10) of burst | DC = Drifting Chains |
| C = Underlying continuum (particularly with Type I) | H = Herringbone |
| S = Storm in the sense of Intermittent but apparently connected activity | W = Weak |
| N = Intermittent activity in this period | P = Pulsations |
| U = U-shaped burst of Type III | CONT = Continuum |
| | UNCLF = Unclassified activity |
| | DCIM = Fast drift |

COSMIC RAY INDICES
(Neutron Monitor)
February 1983

Feb 1983	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	TOKYO Average (cts/h)/100
1	4007	6456.8	6131.8	5537.0	3524.1
2	4029	6520.9	6143.6	5575.1	3526.4
3	4052	6574.3	6165.7	5634.5	3545.2
4	4035	6519.0	6168.5	5601.7	3556.6
5	3810	6180.3	5827.2	5313.5	3469.5
6	3826	6201.4	5863.6	5351.7	3464.9
7	3892	6299.6	5941.8	5418.5	3497.4
8	3929	6311.3	5991.7	5464.8	3517.1
9	3976	6311.0	6086.1	5527.2	3528.5
10	4004	6445.7(23)	6141.1	5584.7	3541.7
11	4008	6488.9	6178.4	5598.9	3541.2
12	4038	6566.8	6205.5	5625.8	3550.4
13	4045	6575.7	6204.1	5624.0	3544.7
14	4050	6579.1	6185.3	5620.7	3530.0
15	4038	6560.5	6172.2	5605.7	3515.0
16	4017	6531.7	6147.6	5573.5	3520.6
17	4035	6551.8	6151.6	5591.7	3509.0
18	4069	6569.6	6198.0	5625.7	3540.1
19	4066	6679.8	6232.2	5656.1	3545.5
20	4065	6617.9	6236.5	5688.7	3543.5
21	4088	6658.7	6245.8	5700.1	3554.4
22	4080	6645.8	6258.1	5686.3	3555.1
23	4086	6648.3	6262.9	5689.6	3561.3
24	4112	6681.5	6301.8	5711.5	3562.7
25	4126	6700.6	6341.2	5745.1	3583.8
26	4141	6715.3	6357.1	5747.7	3583.4
27	4115	6690.1	6315.3	5734.4	3578.5
28	4106	6666.3	6286.7	5723.2	3576.7
MEAN	4030	6530.3	6169.4	5605.7	3538.1

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Cimmax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

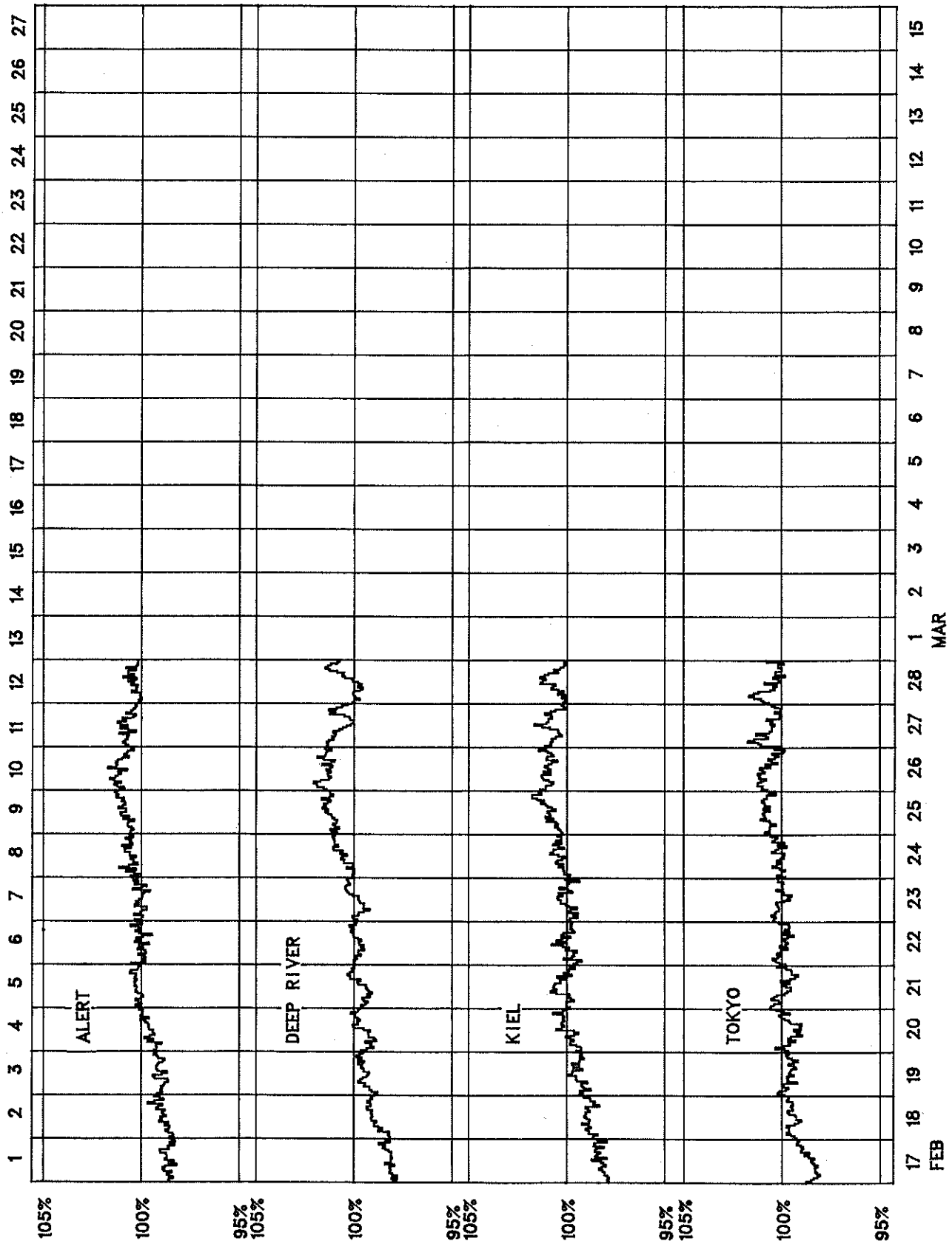
THULE NEUTRON MONITOR



BARTELS ROTATION 2043

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2044 (February 1983-March 1983)



GEOMAGNETIC ACTIVITY INDICES

FEBRUARY 1983

Day	K _p Three-Hourly Indices									A _p	C _p	K _m Three-Hourly Indices								A _m	N	aa			
	1	2	3	4	5	6	7	8	Sum			1	2	3	4	5	6	7	8			S	M		
1	QBA	3-	3-	3-	2+	3	3-	2+	1	20-	11	0.6	2	3-	2+	2+	3-	3-	3	1	20	20	17	14	24
2	Q2K	0	1-	0+	1-	1-	3-	1+	3-	9	5	0.2	0+	1-	0+	1-	1-	3-	2-	2+	9	12	10	4	18 K
3	Q5A	2+	2+	2-	1	2	0+	2	3-	14+	7	0.4	2+	2+	2+	1-	20	1-	20	2+	14	16	12	16	13
4	D5	2	2	2	2	2	8-	8-	6	31+	59	1.7	1+	2	2	2+	2-	7+	7	5	96	90	72	14	148
5	D1	7+	8	7+	7+	7+	6	7	7-	57	143	2.0	6+	7	6	6+	6+	6-	6	6-	179	180	179	186	173
6	D2	6+	6-	5	5	5+	5	2+	1+	36	47	1.5	6-	5-	4+	4	5-	5-	2-	1	64	57	51	63	45
7	D3	3+	5-	5+	5+	5+	6	3	4	37	43	1.5	3	4-	5-	5	5+	6-	3-	4-	67	62	67	54	75
8		5-	4+	4	3-	2+	2	1	3-	24-	18	1.0	4	4-	3+	2+	3-	1+	1	2	27	34	23	38	19
9		3	3	2-	3-	4	3+	4	4-	25+	18	1.0	2-	2	1+	3-	4	3	4+	4-	31	40	26	17	50
10		5+	5+	3	3+	2+	2+	3-	2	26+	23	1.1	4	4-	2+	4-	3	2+	3	2-	32	41	35	53	23
11		1	1+	2	4	5-	3-	5+	5-	26-	24	1.1	1-	1	2+	4	5-	3-	5	4-	41	49	32	18	63
12		4	3	4-	6-	6	4	3	2+	32-	33	1.3	3	2+	3+	5-	5	4-	3+	2+	46	48	39	48	39
13		4+	4	5	5+	4+	3+	4	5-	35	35	1.4	4-	3+	4	5-	4+	3	4	4-	52	62	39	57	45
14		4+	4-	5+	4-	3	4-	3-	5-	31	28	1.2	4	3+	4+	3	3-	3+	3-	4+	44	45	44	48	41
15		3-	4-	4	4	5-	4+	4	3	30+	25	1.2	3-	3+	3+	3	4+	4	4-	3-	40	45	40	26	60
16		4-	5+	4	4-	4	5-	4-	4-	33-	30	1.3	3+	4+	3+	4-	4-	4+	3+	3+	46	45	42	41	46
17		3	3+	3-	3+	3	3+	4-	3-	25	16	0.9	3-	3-	2+	3	3+	3+	3-	3-	28	31	23	22	33
18	Q9A	4-	3+	4-	3-	3	2	2+	2-	22+	14	0.8	3+	3-	3-	3-	3-	2+	2+	2-	22	24	17	21	21
19	Q7A	1	3-	3+	2+	2+	2	1	3+	18	10	0.6	1-	3-	3	2+	3	2+	1	3+	21	19	23	19	23
20	D4	4+	4	4	4-	5-	5	5+	6	37	41	1.5	4-	4-	3	3+	4	4+	5	5+	62	64	61	41	84
21		4+	5	4	5-	4+	5-	4	5	36	36	1.4	4-	4+	3+	4-	4	4	4-	5-	52	57	52	48	62
22		5+	3+	3	3	3-	2-	4-	4-	26+	21	1.1	4+	3-	3-	3-	2+	2-	4-	3	28	37	22	32	28
23		4	4	2	2-	2-	4-	3+	4-	24	17	0.9	3	3+	2-	1+	2-	3+	3+	4-	27	35	23	24	34
24	Q0A	3	3+	2	2+	3	4-	4-	2	23	14	0.8	2+	3-	2	2-	3	4-	4-	2-	25	38	29	27	41
25	Q3	1-	2-	1	1+	1+	2+	2	1+	12-	6	0.2	1	1+	1	2-	2-	3-	2	1+	11	8	13	7	15 C
26	Q1	2	1-	1	1+	1-	1+	1+	1+	10-	5	0.2	2-	0+	1-	2-	1-	2-	1+	2-	9	13	7	8	13 CC
27	Q4A	1+	1-	1+	3	1+	1	3-	2+	14-	7	0.4	1	1	1+	3-	1+	1+	3-	2+	14	16	14	11	19 K
28	Q6A	1-	1+	1	2-	1+	2	3	3+	14+	8	0.4	1	1+	1+	1+	2	2+	3-	4-	17	17	18	10	25
											27	.99									40.1	43.1	36.8	40.0	

Day	K _n Three-Hourly Indices								A _n	K _s Three-Hourly Indices								A _s	
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		
1	2	3-	2+	2+	3-	3	3	1	21	2-	2+	2+	2+	3-	2+	3-	1	17	
2	0	0+	0	1-	1-	3-	2-	2+	8	1	1-	0+	1-	1-	3-	2-	3-	9	
3	2+	2-	2-	1	2	1	2	3-	13	2	3-	3-	1-	2+	0+	2+	2+	15	
4	1+	2-	2+	2+	2	8-	7	5	92	1+	2+	2	2+	2-	7	7+	5	93	
5	6	7	6	7-	6+	5+	6	6-	172	6+	7	6	6+	7-	6	6	6-	186	
6	5+	5-	4+	4	5	5-	2	1+	65	6-	4+	5-	4+	5-	5-	2-	1	63	
7	3	4-	5-	5	5	6-	3	4-	67	3	3+	5-	5	5+	5+	2+	3+	66	
8	4	4-	3+	2+	3-	2-	1	2+	27	4+	3+	3+	3-	2+	1+	1	2	26	
9	2	2	1	3-	4+	3	4	4-	31	1+	2	1+	3-	4	3-	4	4-	31	
10	4+	4	3-	4	3+	2+	3	2	36	4-	4-	2	3+	3-	2+	3	2-	28	
11	1-	1+	2	4	5-	3-	5	4	41	1-	1-	2+	4	4+	3-	5	4-	40	
12	3	2+	4-	5	5	4-	3+	2	48	3	3-	3	5-	5+	3+	3	3-	44	
13	4-	3+	4+	5-	5-	3+	4	4-	56	4-	3+	4-	4+	4	3	4	4-	48	
14	4-	4-	5-	3	3	3+	2+	4+	44	4+	3+	4	3	3-	4-	3+	5-	44	
15	3-	3+	3+	3	4	4	4	3	40	3-	3+	4-	3	5-	4	3+	3-	41	
16	3	5-	3+	3+	4-	4+	3+	3+	46	4-	4	3+	4-	4-	4+	3	3+	45	
17	2+	3	2+	3-	4-	4-	3+	3-	30	3-	3-	2+	3	3-	3+	3	2+	25	
18	3+	3-	3	3-	3-	3-	2+	2-	24	3	2+	3-	2+	2+	2-	2+	2-	20	
19	1-	2+	3	3-	3	2+	1	3+	21	1-	3	3-	2	3	2+	1+	3+	21	
20	4-	4-	3+	3+	4	5-	5-	5	57	4-	4-	3	4-	4+	4+	5+	6-	67	
21	3+	4+	3	4	4	4+	4-	4+	53	4-	4	3+	4-	4-	4	4-	5-	51	
22	5-	3-	3-	3-	2	2-	4-	3	30	4	3-	3-	2+	2+	1+	4-	3	27	
23	3	3+	2	1	2-	3+	3+	4-	28	3	3	1+	1+	2-	3+	3+	4-	27	
24	2+	3-	2-	2-	3	4-	3+	2	25	2	2+	2	2	3	4-	4-	2-	24	
25	1-	1+	1	2-	2-	3-	2-	1+	11	1	1+	1-	2-	2-	3-	2	1+	11	
26	2-	0	0+	1+	1-	2	2-	2-	8	1+	0+	1	2-	0+	1+	1+	2	8	
27	1-	1	1+	3	2-	2-	3-	2+	14	1+	1-	1+	3-	1+	1+	3-	2+	13	
28	1-	1-	1	1+	2	3-	3	3+	16	1+	2-	1+	1+	2-	2	3-	4-	17	
Mean										40.4									39.5

The Geophysikalisches Institut, University of Goettingen, prepares the quiet (Q) and disturbed (D) days, geomagnetic planetary 3-hour-range indices (K_p), magnetic character figures (C_p) and average amplitude (A_p). The 10 most quiet days [Q1-Q0(10)] and the five most disturbed days (D1-D5) are ordered from most quiet and from most disturbed, respectively. A or K means "not really quiet" (A implies A_p>6 and K implies A_p<6 with either one K_p>30 or two K_p values >3-). An asterisk means "not really disturbed" (A_p<20).

Geomagnetic 3-hour indices K_m, K_n, K_s and daily mean values A_m, A_n, A_s and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices, daily north (N) and south (S) values and half-daily antipodal mean (M) values are given. C indicates really quiet 24- and 48-hour intervals centered on 1200 UT; K indicates similar periods with some slightly disturbed 3-hour intervals.

NOTE: All aa indices are provisional from 1 January 1981 until further notice, because of the change in the Southern Hemisphere observatory.

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DAILY AVERAGE INDICES A_p

DAY	1982 MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1983 JAN	FEB
1	68	20	22	20	18	12	9	28	36	2	11	11
2	107	42	30	18	10	55	12	24	32	4	7	5
3	13	48	45	9	6	26	21	10	21	9	11	7
4	12	22	19	7	2	15	32	10	8	13	9	59
5	16	21	14	6	4	18	39	9	9	11	6	143
6	3	18	6	14	15	25	199	19	11	3	3	47
7	3	5	4	14	21	107	88	35	4	29	4	43
8	11	12	5	9	15	6	12	21	12	27	9	18
9	20	10	8	16	10	23	50	6	8	18	20	18
10	16	61	5	51	10	27	10	15	11	46	78	23
11	10	47	9	32	36	28	13	14	20	20	11	24
12	8	15	6	59	48	22	14	15	16	14	18	33
13	13	11	6	62	144	10	15	34	18	6	8	35
14	11	6	8	24	153	7	14	30	12	8	8	28
15	7	10	20	26	36	3	12	8	13	11	22	25
16	4	11	10	10	50	6	12	14	9	13	25	30
17	14	19	12	6	24	16	11	21	6	62	25	16
18	20	12	20	7	24	16	30	23	12	41	32	14
19	10	8	12	24	28	10	28	17	10	34	17	10
20	12	20	8	18	24	12	24	14	6	46	14	41
21	23	32	8	9	11	15	76	11	25	37	12	36
22	38	18	4	20	16	24	135	8	30	42	8	21
23	8	9	2	20	12	17	26	5	36	26	10	17
24	12	15	4	21	50	18	22	5	83	19	22	14
25	20	52	8	17	22	20	13	15	54	14	16	6
26	11	7	24	16	27	20	84	30	26	9	12	5
27	9	24	54	32	27	11	42	16	17	18	10	7
28	6	21	56	27	21	12	14	10	28	21	10	8
29	13	31	35	19	22	38	9	35	32	20	16	
30	15	30	35	39	23	28	12	27	13	15	19	
31	20		31		25	16		34		7	13	
MEAN	18	22	17	22	30	21	36	18	21	21	16	27

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PRINCIPAL MAGNETIC STORMS

FEBRUARY 1983

Sta	Geomag Lat	Commencement†		Type	SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges			End Day (UT)
		Day	Time (UT)		D (Min)	H (Gamma)	Z (Gamma)			D (Min)	H (Gamma)	Z (Gamma)	
COL	64.6N	04	1614	SC*	- 92	-566	-189	04(6,7)	9	468	3250	2620	08 15
SIT	60.0N	04	1615	SC*	- 49 *	179 *	36 *	05(5)	8	250	---	990	08 12
WIT	54.2N	04	1614	SC*	23 *	215 *	13 *	04(6)	8	76	460	350	07 18
FRD	49.6N	04	1614	SC*	6	140	- 8	04(6,7) 05(2)	7	55	315	250	---
IRK	41.0N	04	1615	SC	2.9	4	32	04(6)	8	49	362	186	07 18
HON	21.1N	04	1615	SC	3	45	26	04(6)	7	17	316	40	06 18
JAI	17.3N	04	1615	SC	- 1.3	106	- 29			13	351	60	06 20
SHL	14.7N	04	1615	SC	.7	115	21			9	---	40	06 20
UJJ	13.5N	04	1615	SC	- 1.4	122	- 24			11	385	60	06 20
ABG	09.5N	04	1615	SC	- 1.7	104	- 14	04(6)	8	11	357	64	06 20
HYB	07.6N	04	1614	SC	- 1.1	108	- 10	04(6,7)	8	8	381	37	06 18
GUA	04.0N	04	1614	SC	1	96	- 30	04(5)	8	10	350	60	06 19
TRD	01.1S	04	1615	SC	.3	111	141			---	---	---	06 20
PMG	18.6S	04	1614	SC*	2.2	114	95	04(6)	8	11	340	180	07 20
HER	33.7S	04	1615	SC	11	92	- 80	04(7)	8	50	304	389	06 18
GNA	43.2S	04	1615	SC	12	(70.)	65	04(6,7)	7	52	320	(300)	06 18
CNB	43.9S	04	1614	SC*	10.2	132	22	04(6) 05(4,5)	7	46	374	170	07 18
KGL	56.5S	04	1614	SC	33	170	60	04(6,7)	9	150	2040	550	06 18
KGL	56.5S	07	0000	..	..	..	..	07(5,6)	7	86	610	160	08 12
HYB	07.6N	07	0200	..	..	..	..	07(4,5,6)	5	4	137	26	08 10
WIT	54.2N	09	1400	..	..	..	..	09(7)	6	21	160	50	10 06
HYB	07.6N	09	0900	..	..	..	..	09(7)	5	2	83	15	10 23
HER	33.7S	09	19--	..	..	..	..	09(7)	5	12	58	52	10 04
COL	64.6N	11	09--	..	..	..	..	12(4)	8	415	1940	1150	18 18
WIT	54.2N	11	1000	..	..	..	..	11(7)	6	40	200	75	14 01
FRD	49.6N	11	11--	..	..	..	..	12(4)	6	29	100	57	18 --
IRK	41.0N	11	0800	..	..	..	..	13(4)	6	25	147	43	16 22
HYB	07.6N	11	0700	..	..	..	..	11(4) 12(4,5)	6	5	221	25	14 01
GUA	04.0N	11	0832	..	..	..	..	11(4)	5	---	180	30	12 17
HER	33.7S	11	19--	..	..	..	..	11(7)	5	37	100	94	12 17
HYB	07.6N	14	0500	..	..	..	..	14(3) 15(5,6,7) 16(6)	5	3	121	15	16 23
KGL	56.5S	16	0311	SC	5	10	5	16(5,6)	5	26	130	40	17 06
COL	64.6N	19	0438	SC*	- 2	+ 81	- 6	21(6)	7	212	1620	930	22 16
WIT	54.2N	19	2340	..	..	..	..	20(6,8) 21(8)	6	39	200	65	22 03
FRD	49.6N	19	0438	SC	- 1	16	- 2	20(8) 21(2) 22(1)	5	28	119	69	24 21
HYB	07.6N	19	0438	SC	- .2	18	- 2	20(6,7)	5	5	126	37	22 03
CNB	43.9S	19	23--	..	..	..	..	20(5,8) 21(5)	5	19	133	46	22 03
KGL	56.5S	19	2300	..	..	..	..	20(7,8)	8	128	615	520	21 12
HER	33.7S	20	11--	..	..	..	..	20(5,7,8)	5	29	60	125	21 01
HER	33.7S	21	20--	..	..	..	..	21(8)	5	15	61	91	22 01
HON	21.1N	28	2145	SC	--	14	3	02(3,4)	6	9	309	48	03 12
HYB	07.6N	28	1800	..	..	..	..	02(5)	7	6	301	24	03 20
GUA	04.0N	28	2146	..	..	..	..	01(1)	5	---	130	30	01 10
FRD	49.6N	29	19--	..	..	..	..	02(1,2) 03(1)	6	35	200	228	06 03

Reports were received from the following observatories:

ALIBAG	HERMANUS	PORT MORESBY
CANBERRA	HONOLULU	SHILLONG
COLLEGE	HYDERABAD	SITKA
FREDERICKSBURG	IRKUTSK	TRIVANDRUM
GNANGARA	JAIPUR	UJJAIN
GUAM	KERGUELEN	WITTEVEEN

RADIO PROPAGATION QUALITY INDICES

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February 1983

DAY	TOKYO	NEW YORK	TEHERAN	OSLO	BRACKNELL
1	6.8	6.7	8.0	6.0	5.3
2	7.0	7.4	5.5	6.1	5.4
3	5.9	9.0	4.3	6.5	6.7
4	6.0	3.8	9.4	7.2	6.4
5	2.9	0.0	4.5	2.2	3.8
6	3.4	3.0	8.0	5.6	5.6
7	4.4	3.0	5.8	5.0	5.2
8	4.5	3.4	7.6	6.0	4.2
9	5.7	4.4	4.4	5.0	4.3
10	4.2	3.8	5.0	3.3	3.3
11	5.5	5.5	5.0	5.2	5.0
12	4.5	4.2	4.5	4.7	4.8
13	5.2	3.3	6.5	5.1	5.2
14	4.5	3.3	6.7	3.6	3.9
15	4.2	3.4	6.7	4.8	4.0
16	5.2	4.8	2.8	5.2	4.7
17	4.4	4.9	4.0	4.9	4.1
18	3.3	4.6	6.5	4.8	4.5
19	6.3	6.0	4.5	6.5	6.6
20	7.0	5.1	9.1	6.7	5.6
21	6.0	5.0	8.6	6.3	7.2
22	5.6	5.4	5.8	3.3	5.0
23	6.7	6.7	9.1	5.1	5.4
24	5.7	5.7	8.9	5.6	4.7
25	6.0	8.1	5.8	6.5	5.8
26	7.4	8.7	5.8	7.3	7.7
27	8.0	9.7	5.3	7.4	6.8
28	8.5	9.5	5.0	8.2	8.1
MEAN	5.5	5.3	6.2	5.5	5.3

CALCULATION OF QUALITY INDICES (Q)

From all 24 hourly field strength values and from all frequencies of the same circuit a median field strength value is calculated (FD). This daily value is compared with the average value (FA) of the preceding 27 days (1 sun rotation).

$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

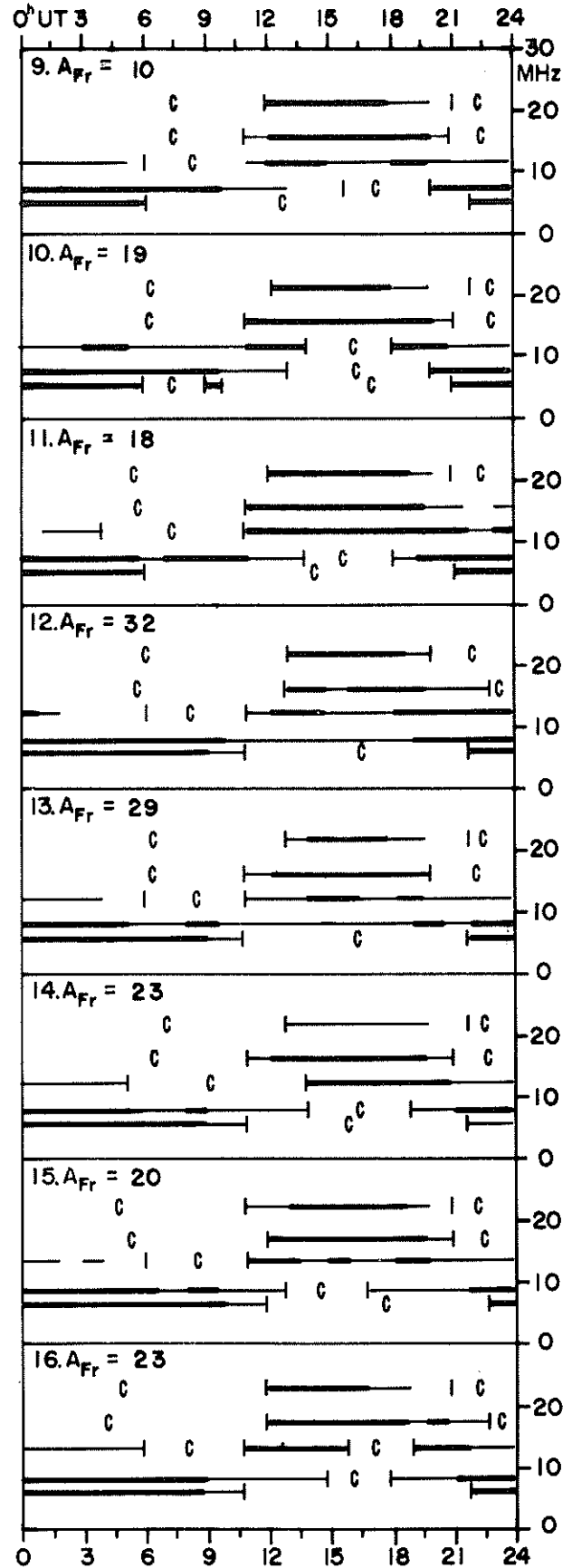
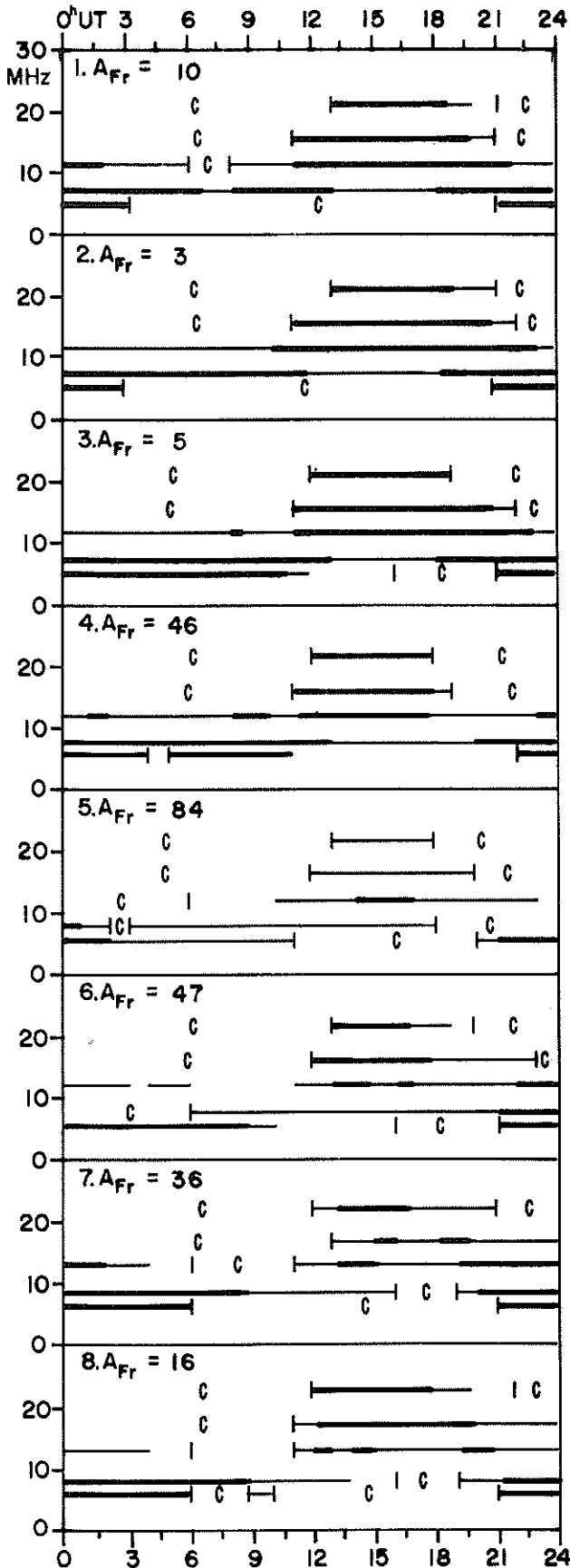
The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceding 27 days.

Scale for Quality Indices

- 0.0 - 1.0 = very poor
- 1.1 - 3.0 = poor
- 3.1 - 5.0 = fair
- 5.1 - 7.0 = normal
- 7.1 - 9.0 = good
- 9.1 - 9.9 = very good

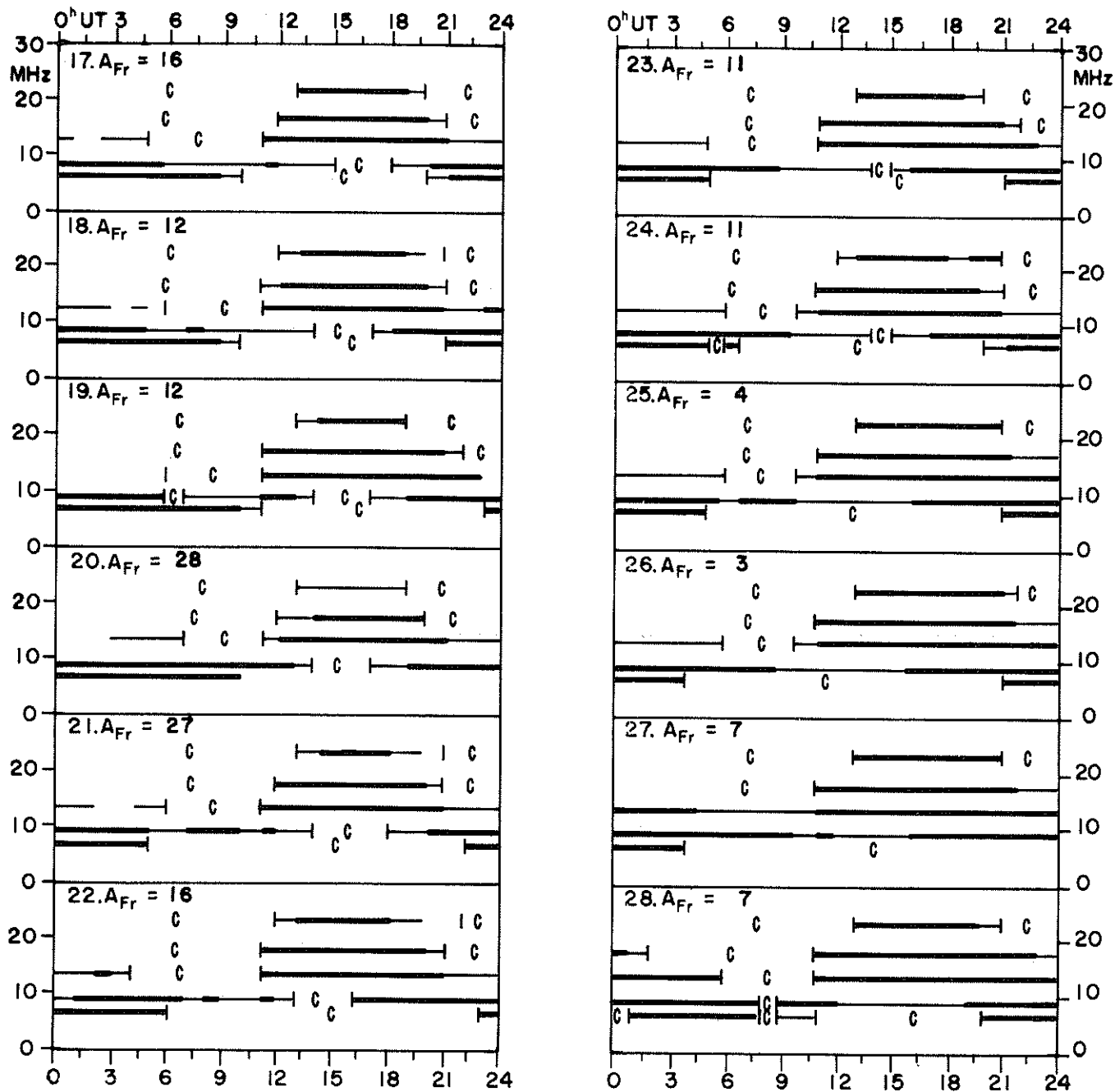
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

FEBRUARY 1983



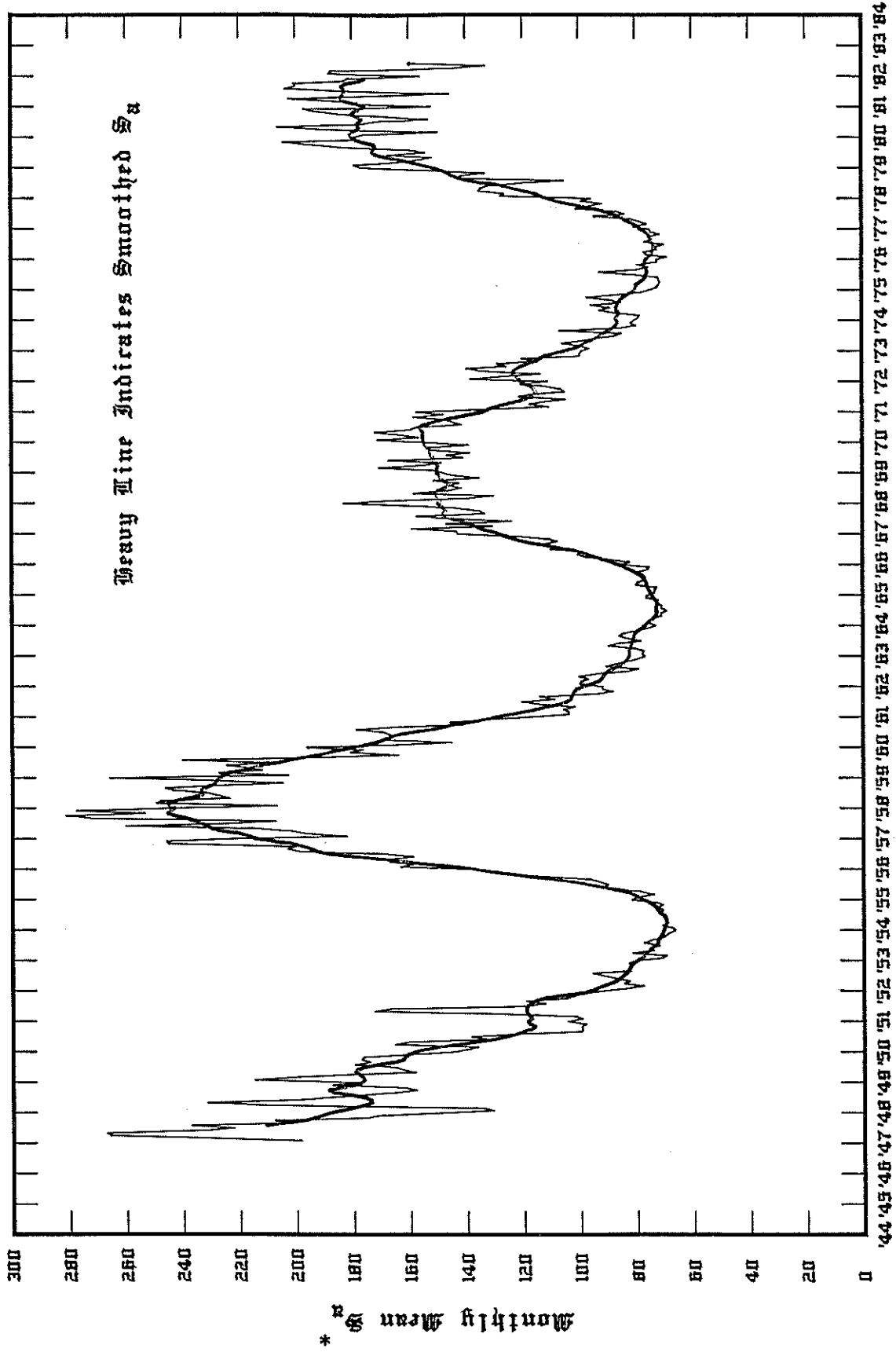
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

FEBRUARY 1983



Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Norddeich-New York circuit are represented above. Heavy solid lines represent field strengths > -12 dB above $1 \mu\text{V/m}$ (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above $1 \mu\text{V/m}$ and -40 dB above $1 \mu\text{V/m}$ are represented by the fine line.

Monthly Mean Ottawa 10.7 cm Solar Radio Flux February 1947 - June 1982



* Solar Flux Units (10^{-22} W/m² Hz) Adjusted to 1 A.U., Series B.

SGD 464 Part I (Prompt)

LATE DATA

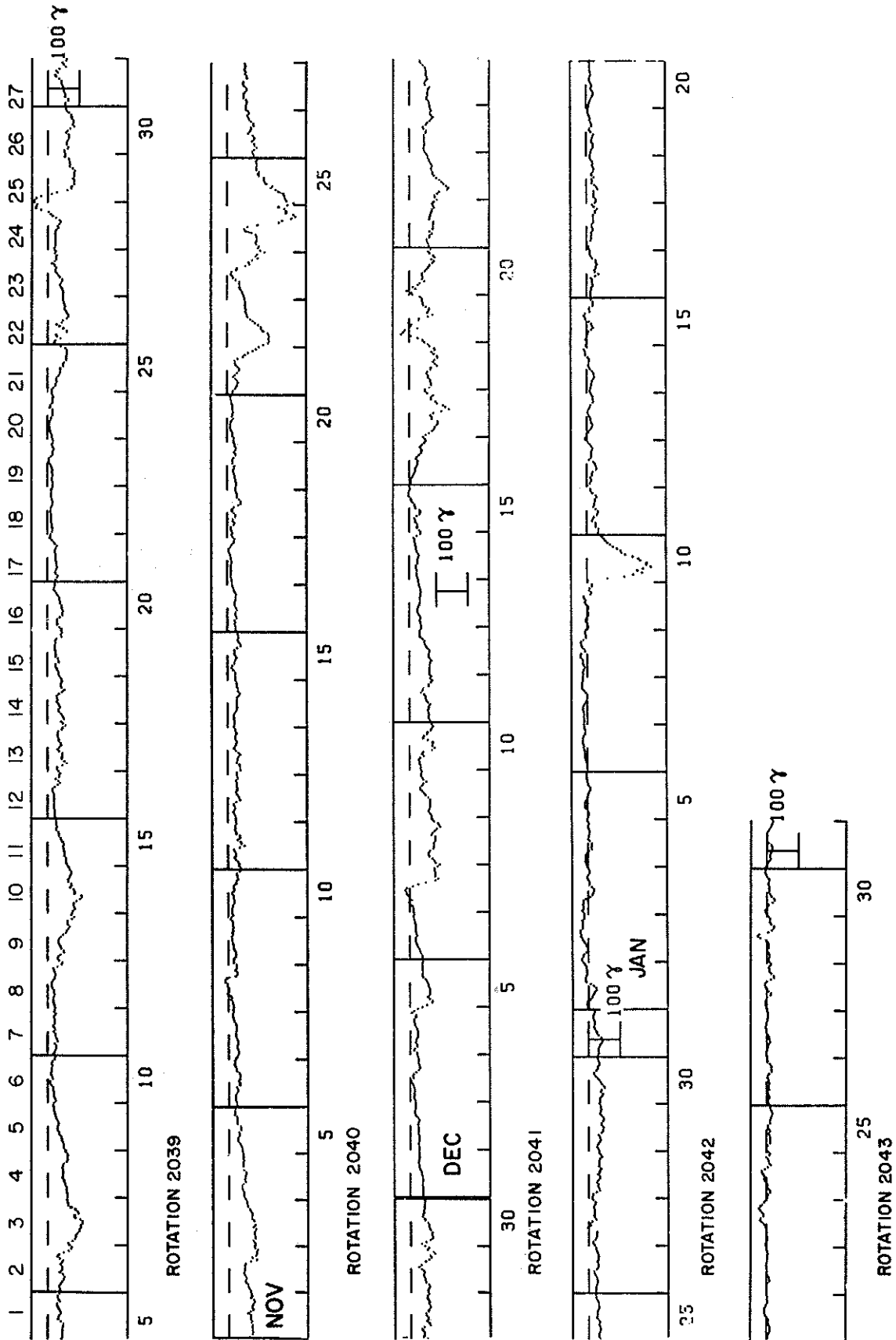
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Hourly Equatorial Dst Values (Provisional)	97
Sudden Commencements and Solar Flare Effects	98

GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst

by Bartels Rotation



Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

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SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

JANUARY 1983

PRELIMINARY REPORT ON RAPID VARIATIONS

Sudden Commencements (ssc)

09 15 45 A: SOD DOB NUR WNG WIT NGK DOU
CLF MMB EBR COI TOL FRD PEN ALM
KAK HTY KNY LNP HUA MPO AMS KGL
DUM; B: BDV AQU GNA CZT

11 23 09 A: PEN ALM HUA MPO; B: WNG WIT DOU
CLF LNP GNA AMS CZT DUM; C: NGK
HAD BDV (si: B: EBR)

Reporting Observatories (28-II):

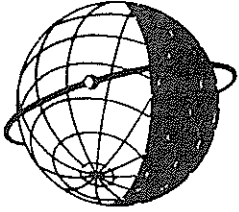
SOD NUR DOB WNG WIT NGK HAD BDV DOU CLF MMB
AQU EBR COI TOL FRD PEN ALM KAK HTY KNY LNP
HUA TAN MPO GNA AMS CZT KGL DUM

★U.S. GOVERNMENT PRINTING OFFICE:1983-676-019 / 13

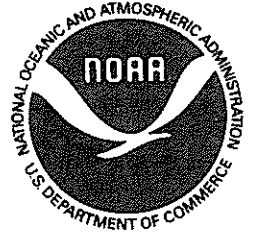
Solar Flare Effects (sfe)

1 09 43 - 10 02 MPO
5 00 27 - 00 36 LNP
7 02 05 - 02 18 KAK HTY LNP

11 03 02 - 03 06 LNP
12 12 50 - TAN
13 06 31 - 06 45 MPO
15 01 51 - 01 54 LNP
22 15 20 - 15 27 HUA
24 10 00 - TAN
25 09 45 - 10 02 ALM
27 03 35 - 03 58 HTY
27 04 00 - TAN
28 12 18 - 12 50 ALM MPO
30 04 39 - 04 42 LNP



WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS



The ICSU Panel on WDCs has recommended that it would be appropriate courtesy to acknowledge in publications that data were obtained from the originating station or investigator through the intermediary of the WDCs. The following statement is suggested:

"Data used in this study were provided by WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder Colorado 80303, USA."